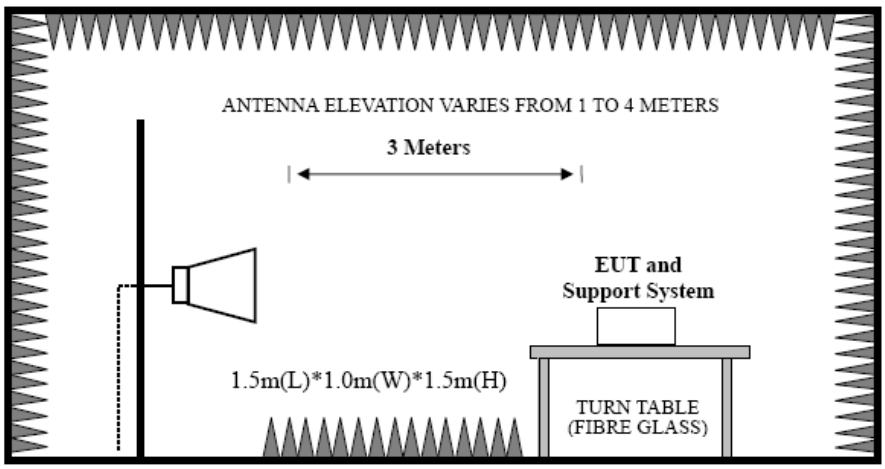
# 5 BAND EDGE COMPLIANCE TEST

## 5.1 Limit

All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits

## 5.2 Block Diagram of Test setup




## 5.3 Test Procedure

EUT was placed on a turn table, which is 1.5 m high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

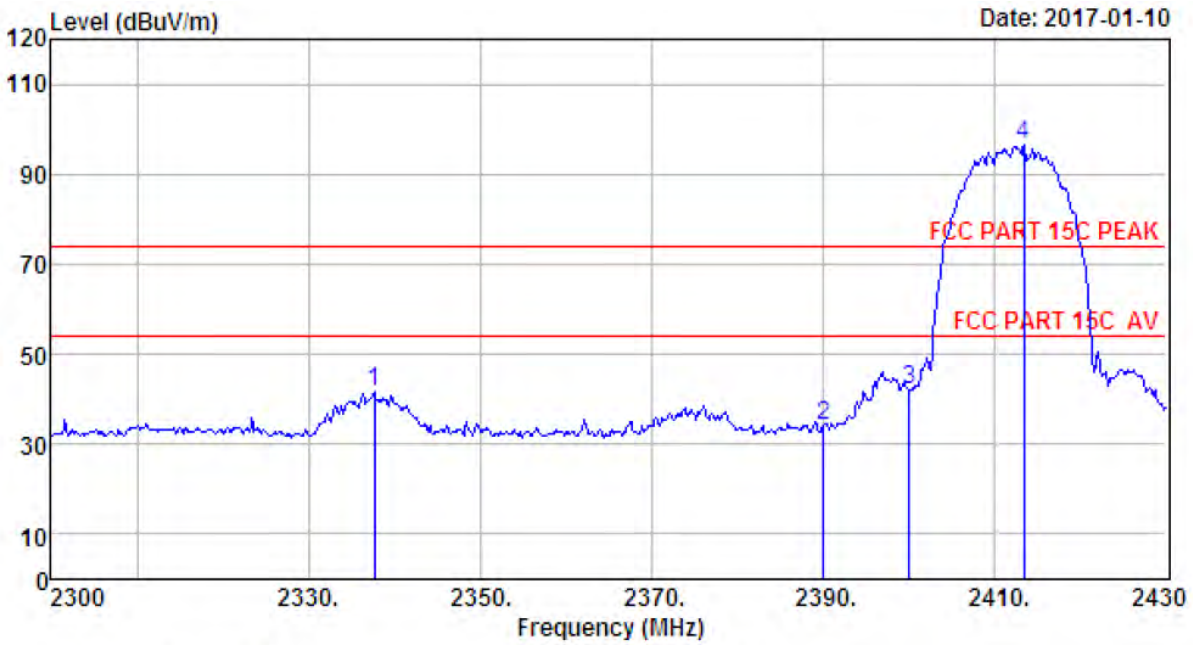
Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of emissions
Peak : RBW = 1MHz, VBW = 1MHz, Detector=PEAK detector, Sweep time = auto.
AV : RBW = 1MHz, VBW = 10Hz, Detector=PEAK detector, Sweep time = auto.

## 5.4 Test Result

Pass (The testing data was attached in the next pages.)

Note: 1、For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.
2、The frequency 2412 MHz and 2462 MHz is fundamental frequency which no limit, the limit on plots is automatically generated by the software, it's not fundamental limit, we can't remove it.

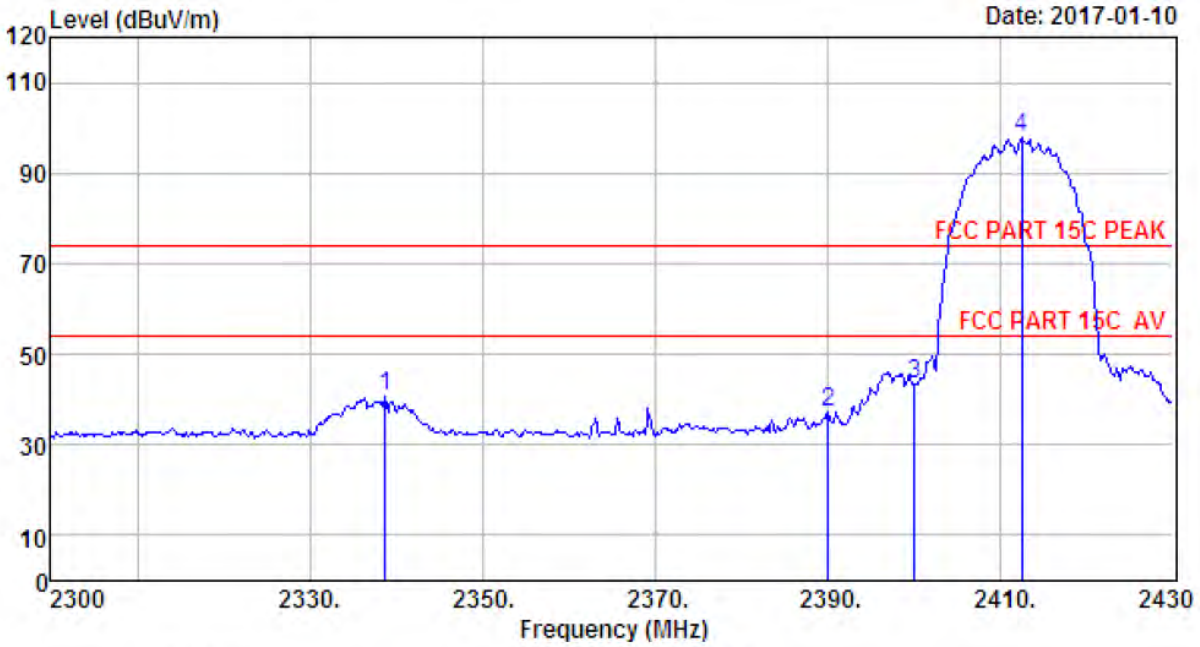
## 5.5 Test Data




Site no. : 1# 966 Chamber Data no. : 19
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Big Blue 100
Power : DC 16V From Adapter Input AC 120V/60Hz
M/N : AD107A4BKA
Test Mode : IEEE 802.11b CH1 2412TX
Antenna 1

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2337.70 | 27.73 | 6.56 | 34.59 | 41.71 | 41.41 | 74.00 | 32.59 | Peak |
| 2 | 2390.00 | 27.64 | 6.62 | 34.62 | 34.57 | 34.21 | 74.00 | 39.79 | Peak |
| 3 | 2400.00 | 27.61 | 6.62 | 34.64 | 42.49 | 42.08 | 74.00 | 31.92 | Peak |
| 4 | 2413.36 | 27.60 | 6.64 | 34.64 | 96.87 | 96.47 | 74.00 | -22.47 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 1# 966 Chamber Data no. : 20
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Big Blue 100
Power : DC 16V From Adapter Input AC 120V/60Hz
M/N : AD107A4BKA
Test Mode : IEEE 802.11b CH1 2412TX
Antenna 1

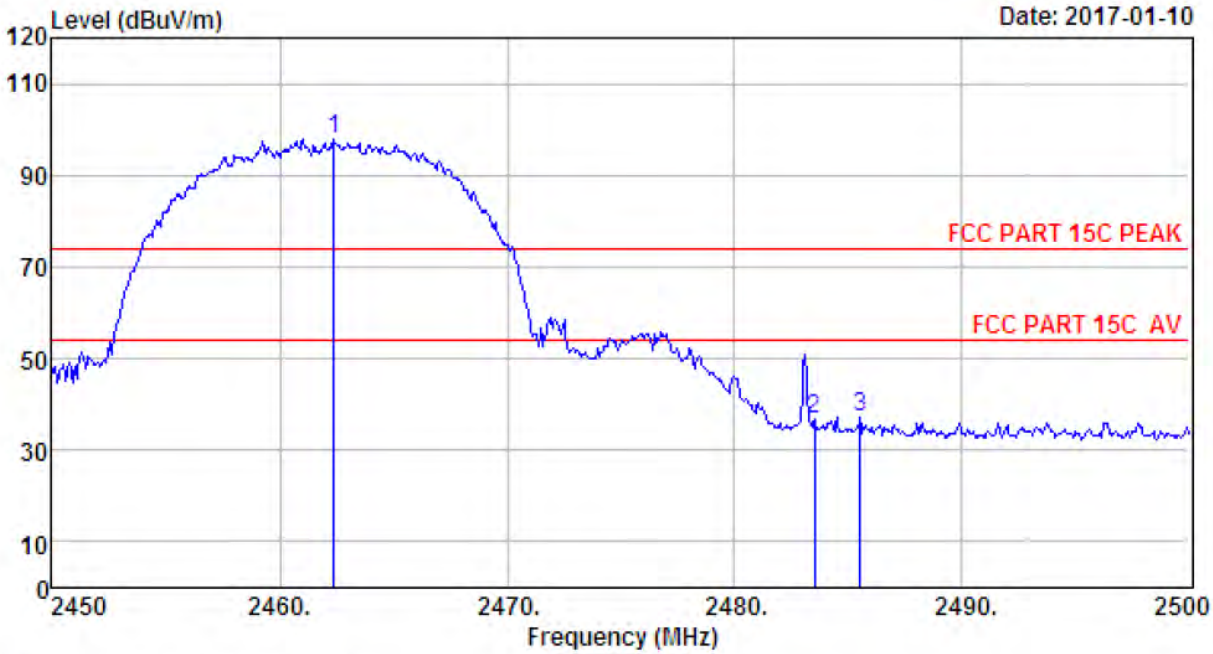
| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2338.74 | 27.73 | 6.56 | 34.59 | 41.00 | 40.70 | 74.00 | 33.30 | Peak |
| 2 | 2390.00 | 27.64 | 6.62 | 34.62 | 37.41 | 37.05 | 74.00 | 36.95 | Peak |
| 3 | 2400.00 | 27.61 | 6.62 | 34.64 | 43.64 | 43.23 | 74.00 | 30.77 | Peak |
| 4 | 2412.45 | 27.60 | 6.64 | 34.64 | 98.21 | 97.81 | 74.00 | -23.81 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.


```
Site no.       : 1# 966 Chamber              Data no.  : 21
Dis. / Ant.    : 3m   ANT 1-18G              Ant. pol. : HORIZONTAL
Limit          : FCC PART 15C PEAK
Env. / Ins.    : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer       : Tony
EUT            : Big Blue 100
Power          : DC 16V From Adapter Input AC 120V/60Hz
M/N            : AD107A4BKA
Test Mode      : IEEE 802.11b CH11 2462TX
                 Antenna 1
```

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2462.40 | 27.58 | 6.69 | 34.98 | 98.67 | 97.96 | 74.00 | -23.96 | Peak |
| 2 | 2483.50 | 27.58 | 6.71 | 35.11 | 38.90 | 38.08 | 74.00 | 35.92 | Peak |
| 3 | 2483.60 | 27.58 | 6.71 | 35.11 | 41.09 | 40.27 | 74.00 | 33.73 | Peak |

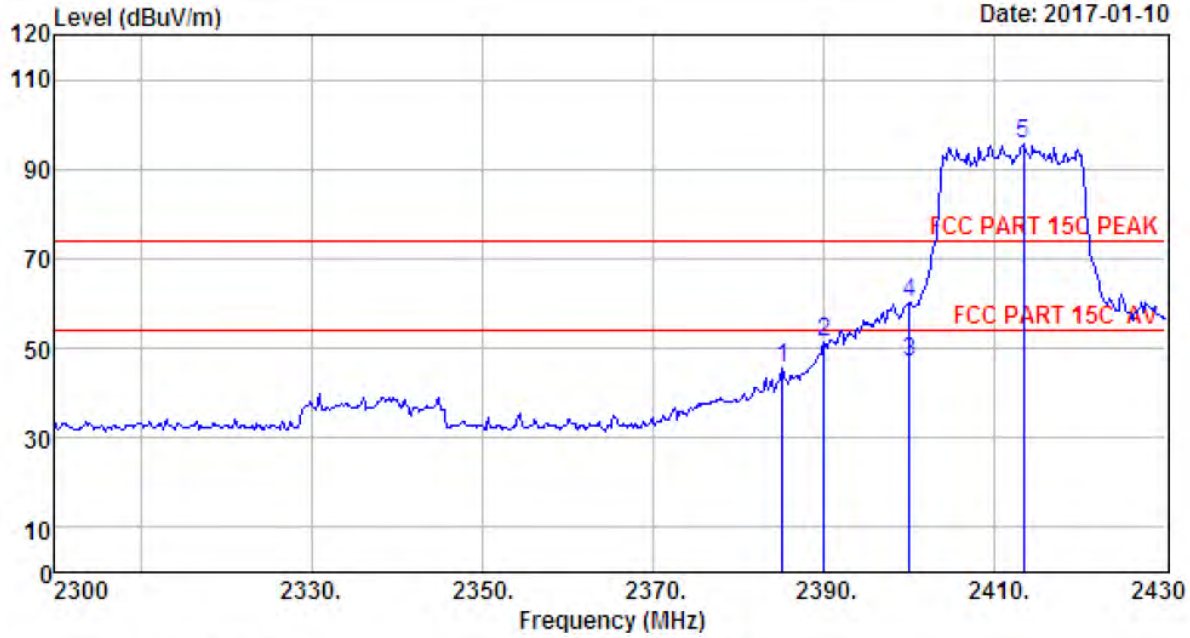
```
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
         2. The emission levels that are 20dB below the official
            limit are not reported.
```




Site no. : 1# 966 Chamber Data no. : 22
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Big Blue 100
Power : DC 16V From Adapter Input AC 120V/60Hz
M/N : AD107A4BKA
Test Mode : IEEE 802.11b CH11 2462TX
Antenna 1

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2462.40 | 27.58 | 6.69 | 34.98 | 98.53 | 97.82 | 74.00 | -23.82 | Peak |
| 2 | 2483.50 | 27.58 | 6.71 | 35.11 | 37.45 | 36.63 | 74.00 | 37.37 | Peak |
| 3 | 2485.50 | 27.58 | 6.71 | 35.11 | 37.85 | 37.03 | 74.00 | 36.97 | Peak |

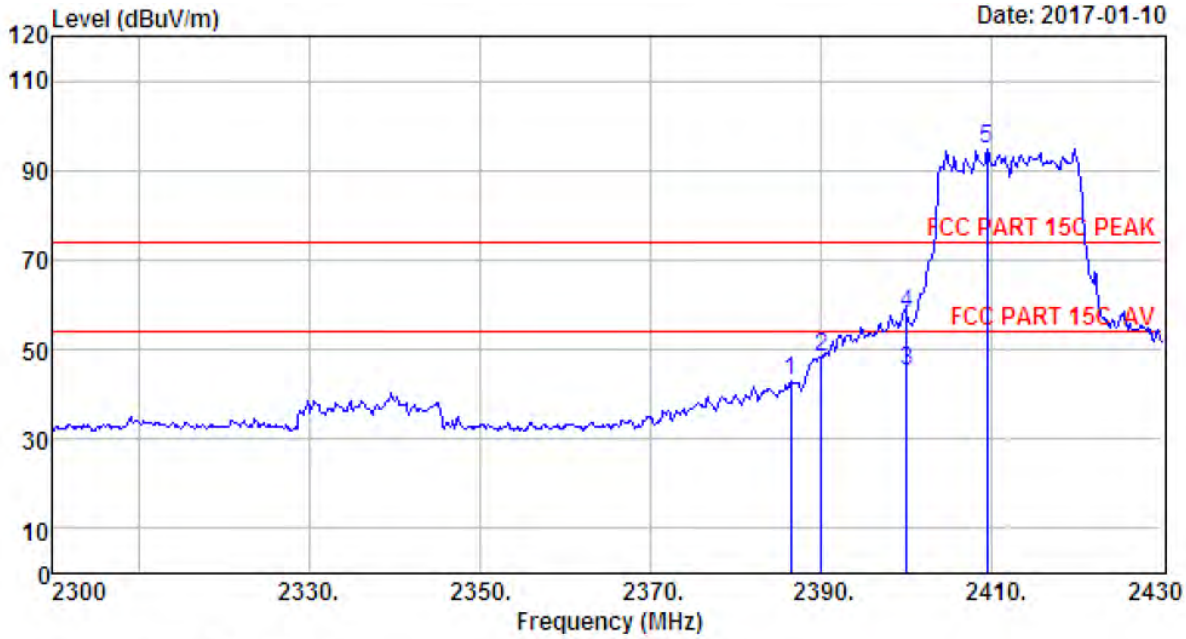
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 1# 966 Chamber Data no. : 23
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Big Blue 100
Power : DC 16V From Adapter Input AC 120V/60Hz
M/N : AD107A4BKA
Test Mode : IEEE 802.11g CH1 2412TX
Antenna 1

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2385.15 | 27.64 | 6.60 | 34.62 | 46.12 | 45.74 | 74.00 | 28.26 | Peak |
| 2 | 2390.00 | 27.64 | 6.62 | 34.62 | 51.86 | 51.50 | 74.00 | 22.50 | Peak |
| 3 | 2400.00 | 27.61 | 6.62 | 34.64 | 47.26 | 46.85 | 54.00 | 7.15 | Average |
| 4 | 2400.00 | 27.61 | 6.62 | 34.64 | 60.48 | 60.07 | 74.00 | 13.93 | Peak |
| 5 | 2413.36 | 27.60 | 6.64 | 34.64 | 96.12 | 95.72 | 74.00 | -21.72 | Peak |

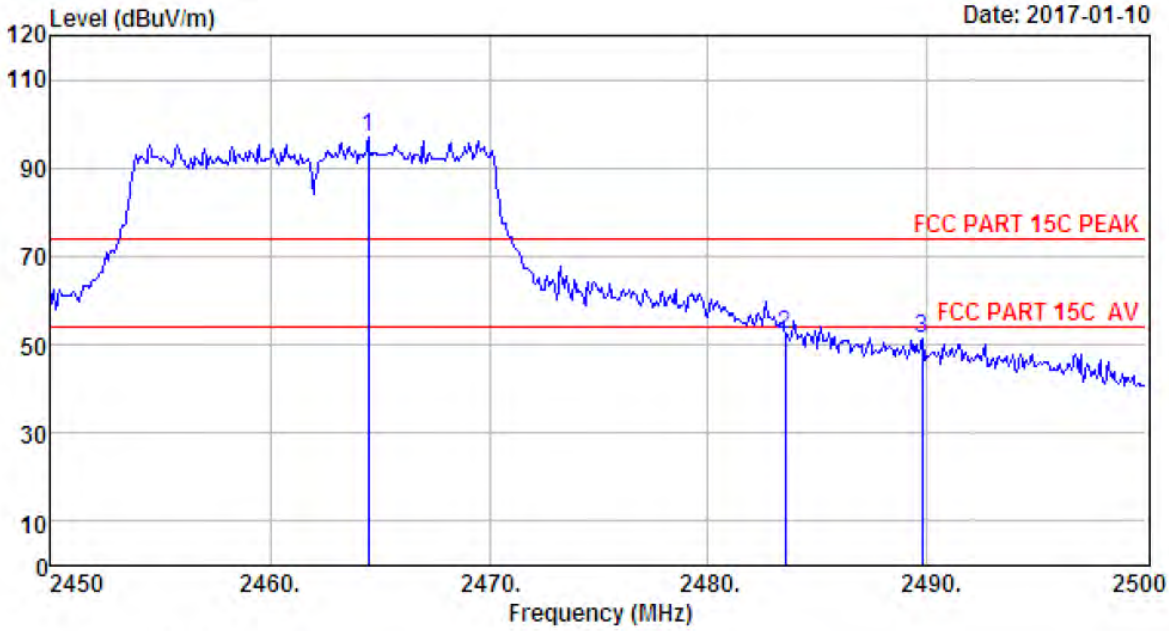
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 1# 966 Chamber Data no. : 24
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Big Blue 100
Power : DC 16V From Adapter Input AC 120V/60Hz
M/N : AD107A4BKA
Test Mode : IEEE 802.11g CH1 2412TX
Antenna 1

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2386.45 | 27.64 | 6.62 | 34.62 | 43.24 | 42.88 | 74.00 | 31.12 | Peak |
| 2 | 2390.00 | 27.64 | 6.62 | 34.62 | 48.61 | 48.25 | 74.00 | 25.75 | Peak |
| 3 | 2400.00 | 27.61 | 6.62 | 34.64 | 45.76 | 45.35 | 54.00 | 8.65 | Average |
| 4 | 2400.00 | 27.61 | 6.62 | 34.64 | 58.43 | 58.02 | 74.00 | 15.98 | Peak |
| 5 | 2409.46 | 27.60 | 6.64 | 34.64 | 95.07 | 94.67 | 74.00 | -20.67 | Peak |

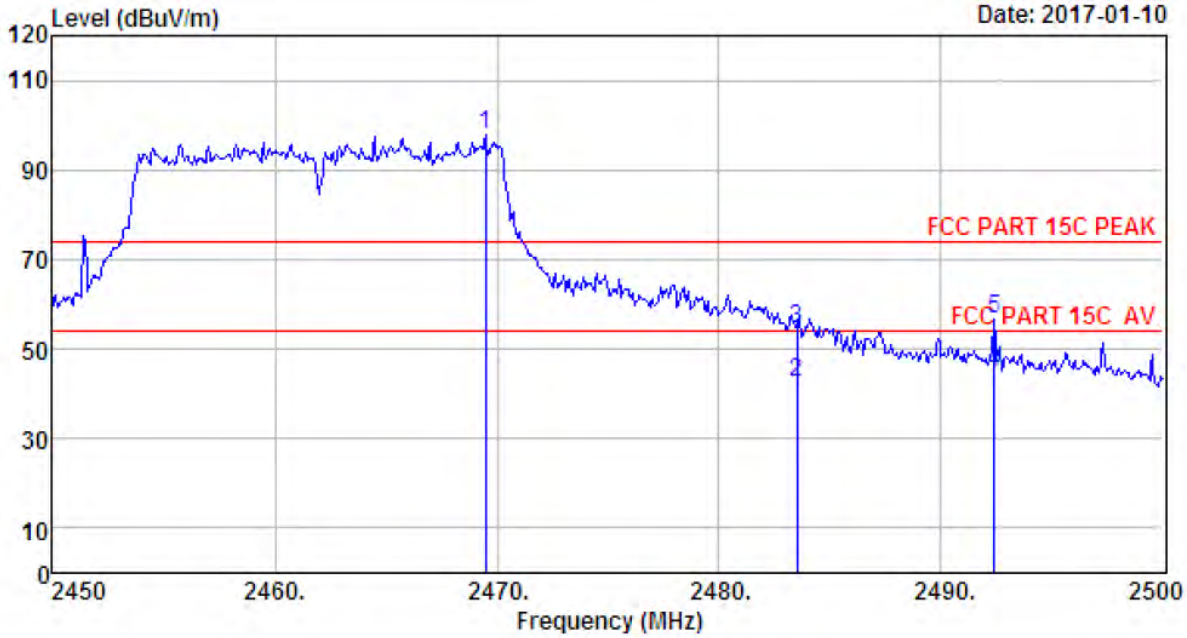
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 1# 966 Chamber Data no. : 25
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Big Blue 100
Power : DC 16V From Adapter Input AC 120V/60Hz
M/N : AD107A4BKA
Test Mode : IEEE 802.11g CH11 2462TX
Antenna 1

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2464.50 | 27.58 | 6.69 | 34.98 | 97.71 | 97.00 | 74.00 | -23.00 | Peak |
| 2 | 2483.50 | 27.58 | 6.71 | 35.11 | 53.09 | 52.27 | 74.00 | 21.73 | Peak |
| 3 | 2489.75 | 27.58 | 6.73 | 35.24 | 52.42 | 51.49 | 74.00 | 22.51 | Peak |

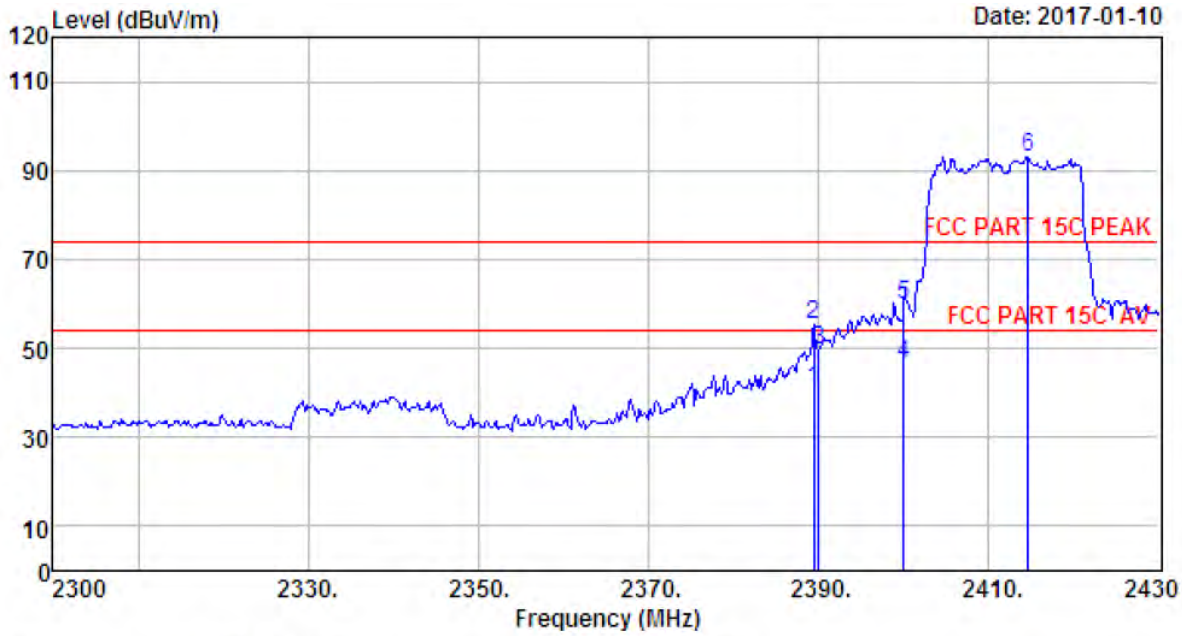
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 1# 966 Chamber Data no. : 26
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Big Blue 100
Power : DC 16V From Adapter Input AC 120V/60Hz
M/N : AD107A4BKA
Test Mode : IEEE 802.11g CH11 2462TX
Antenna 1

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2469.50 | 27.58 | 6.69 | 34.98 | 98.50 | 97.79 | 74.00 | -23.79 | Peak |
| 2 | 2483.50 | 27.58 | 6.71 | 35.11 | 43.39 | 42.57 | 54.00 | 11.43 | Average |
| 3 | 2483.50 | 27.58 | 6.71 | 35.11 | 55.32 | 54.50 | 74.00 | 19.50 | Peak |
| 4 | 2492.40 | 27.58 | 6.73 | 35.24 | 45.75 | 44.82 | 54.00 | 9.18 | Average |
| 5 | 2492.40 | 27.58 | 6.73 | 35.24 | 57.44 | 56.51 | 74.00 | 17.49 | Peak |

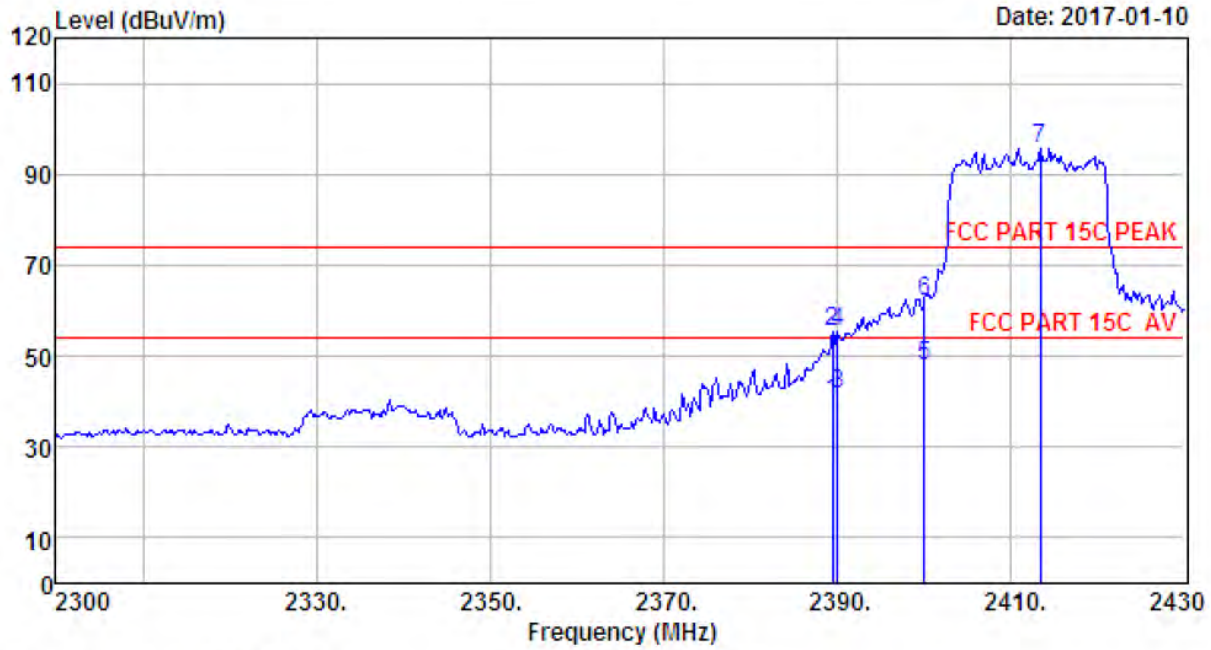
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 1# 966 Chamber Data no. : 27
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Big Blue 100
Power : DC 16V From Adapter Input AC 120V/60Hz
M/N : AD107A4BKA
Test Mode : IEEE 802.11n HT20 CH1 2412TX
Antenna 1

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2389.44 | 27.64 | 6.62 | 34.62 | 41.08 | 40.72 | 54.00 | 13.28 | Average |
| 2 | 2389.44 | 27.64 | 6.62 | 34.62 | 55.85 | 55.49 | 74.00 | 18.51 | Peak |
| 3 | 2390.00 | 27.64 | 6.62 | 34.62 | 49.80 | 49.44 | 74.00 | 24.56 | Peak |
| 4 | 2400.00 | 27.61 | 6.62 | 34.64 | 46.76 | 46.35 | 54.00 | 7.65 | Average |
| 5 | 2400.00 | 27.61 | 6.62 | 34.64 | 60.28 | 59.87 | 74.00 | 14.13 | Peak |
| 6 | 2414.66 | 27.60 | 6.64 | 34.64 | 93.42 | 93.02 | 74.00 | -19.02 | Peak |

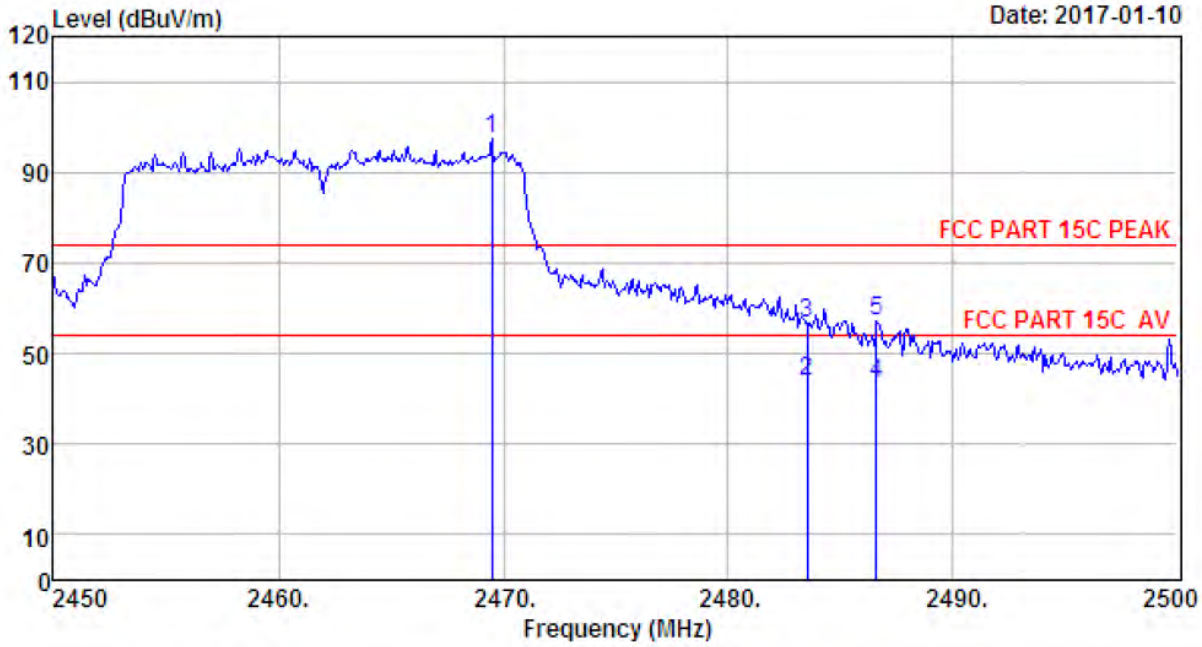
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 1# 966 Chamber Data no. : 28
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Big Blue 100
Power : DC 16V From Adapter Input AC 120V/60Hz
M/N : AD107A4BKA
Test Mode : IEEE 802.11n HT20 CH1 2412TX
Antenna 1

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2389.44 | 27.64 | 6.62 | 34.62 | 40.08 | 39.72 | 54.00 | 14.28 | Average |
| 2 | 2389.44 | 27.64 | 6.62 | 34.62 | 55.85 | 55.49 | 74.00 | 18.51 | Peak |
| 3 | 2390.00 | 27.64 | 6.62 | 34.62 | 42.07 | 41.71 | 54.00 | 12.29 | Average |
| 4 | 2390.00 | 27.64 | 6.62 | 34.62 | 55.54 | 55.18 | 74.00 | 18.82 | Peak |
| 5 | 2400.00 | 27.61 | 6.62 | 34.64 | 48.26 | 47.85 | 54.00 | 6.15 | Average |
| 6 | 2400.00 | 27.61 | 6.62 | 34.64 | 62.24 | 61.83 | 74.00 | 12.17 | Peak |
| 7 | 2413.36 | 27.60 | 6.64 | 34.64 | 96.26 | 95.86 | 74.00 | -21.86 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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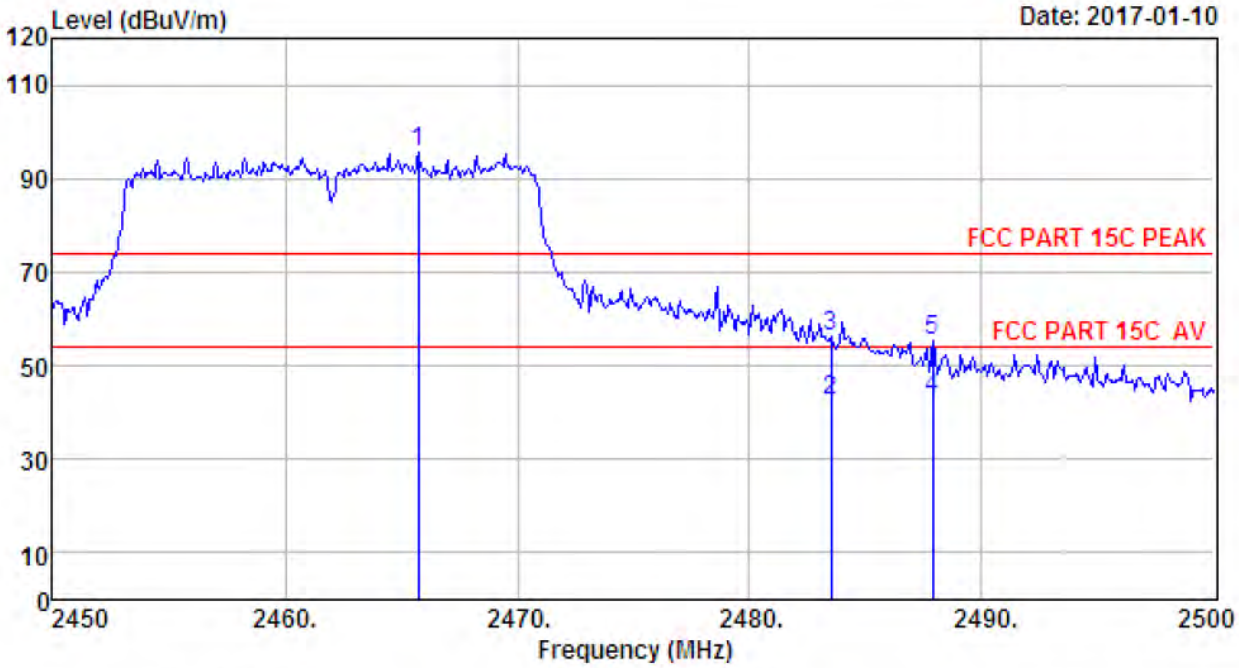
Site no.      : 1# 966 Chamber              Data no.  : 29
Dis. / Ant.   : 3m   ANT 1-18G              Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C PEAK
Env. / Ins.   : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer      : Tony
EUT           : Big Blue 100
Power         : DC 16V From Adapter Input AC 120V/60Hz
M/N           : AD107A4BKA
Test Mode     : IEEE 802.11n HT20 CH11 2462TX
                Antenna 1
```

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2469.50 | 27.58 | 6.69 | 34.98 | 98.03 | 97.32 | 74.00 | -23.32 | Peak |
| 2 | 2483.50 | 27.58 | 6.71 | 35.11 | 44.79 | 43.97 | 54.00 | 10.03 | Average |
| 3 | 2483.50 | 27.58 | 6.71 | 35.11 | 57.36 | 56.54 | 74.00 | 17.46 | Peak |
| 4 | 2486.60 | 27.58 | 6.71 | 35.11 | 44.27 | 43.45 | 54.00 | 10.55 | Average |
| 5 | 2486.60 | 27.58 | 6.71 | 35.11 | 57.75 | 56.93 | 74.00 | 17.07 | Peak |

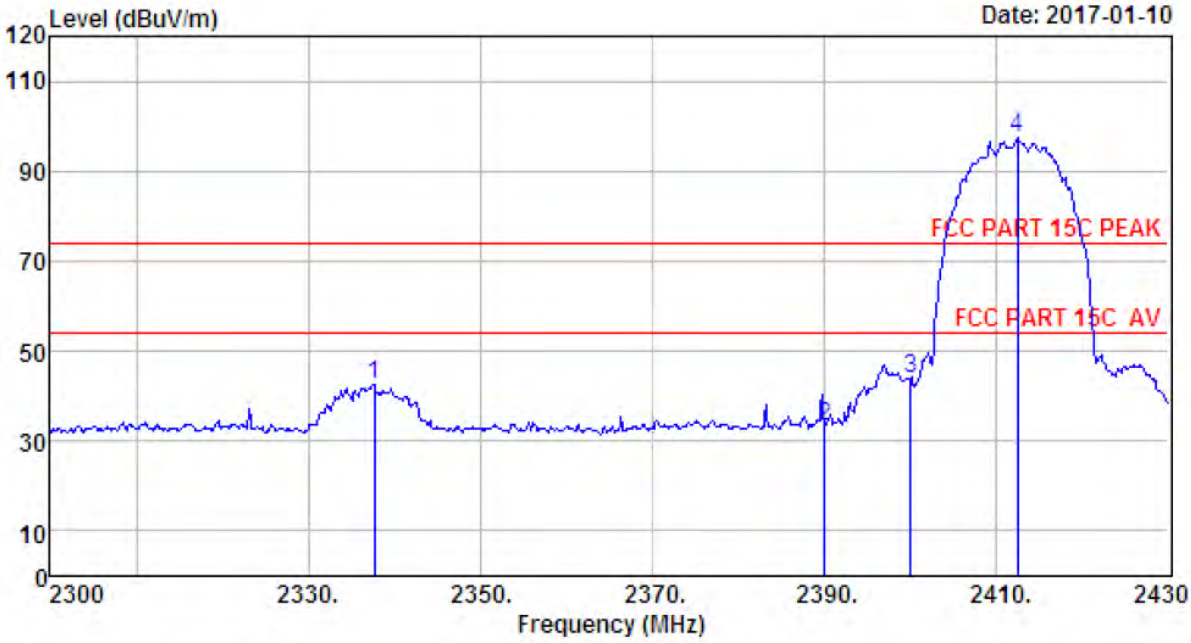
```
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
         2. The emission levels that are 20dB below the official
            limit are not reported.
```




Site no. : 1# 966 Chamber Data no. : 30
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Big Blue 100
Power : DC 16V From Adapter Input AC 120V/60Hz
M/N : AD107A4BKA
Test Mode : IEEE 802.11n HT20 CH11 2462TX
Antenna 1

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2465.75 | 27.58 | 6.69 | 34.98 | 96.35 | 95.64 | 74.00 | -21.64 | Peak |
| 2 | 2483.50 | 27.58 | 6.71 | 35.11 | 43.39 | 42.57 | 54.00 | 11.43 | Average |
| 3 | 2483.50 | 27.58 | 6.71 | 35.11 | 56.86 | 56.04 | 74.00 | 17.96 | Peak |
| 4 | 2487.90 | 27.58 | 6.73 | 35.11 | 43.77 | 42.97 | 54.00 | 11.03 | Average |
| 5 | 2487.90 | 27.58 | 6.73 | 35.11 | 56.11 | 55.31 | 74.00 | 18.69 | Peak |

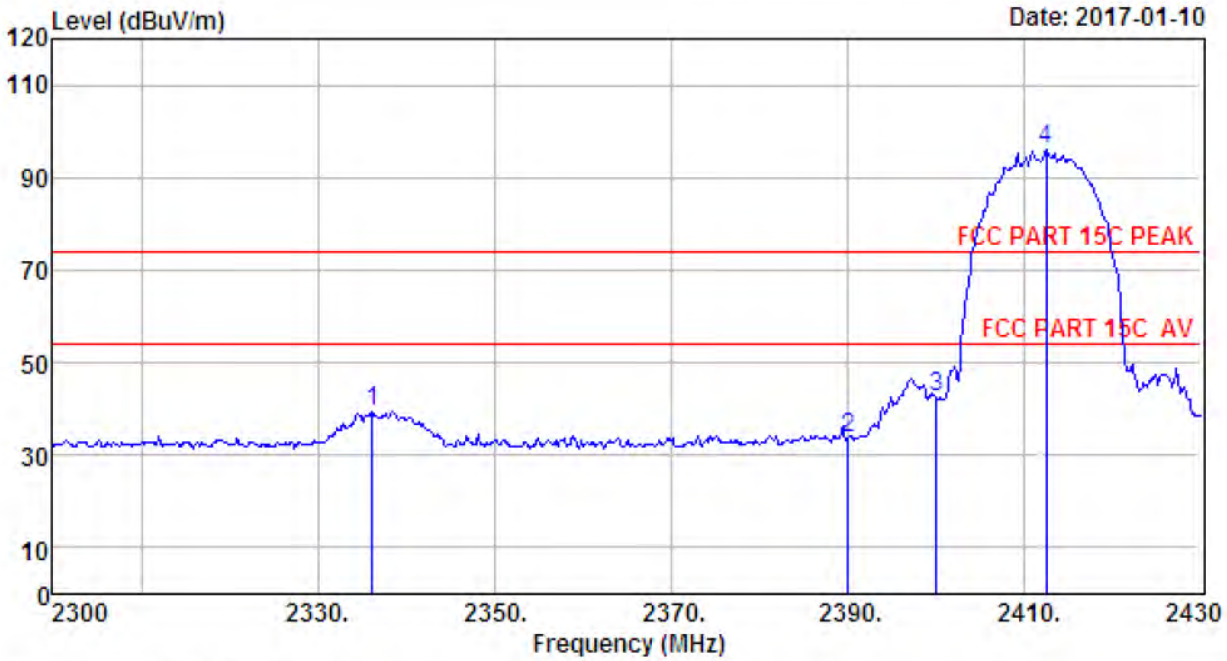
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 1# 966 Chamber Data no. : 49
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Big Blue 100
Power : DC 16V From Adapter Input AC 120V/60Hz
M/N : AD107A4BKA
Test Mode : IEEE 802.11b CH1 2412TX
Antenna 2

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2337.70 | 27.73 | 6.56 | 34.59 | 42.89 | 42.59 | 74.00 | 31.41 | Peak |
| 2 | 2390.00 | 27.64 | 6.62 | 34.62 | 33.65 | 33.29 | 74.00 | 40.71 | Peak |
| 3 | 2400.00 | 27.61 | 6.62 | 34.64 | 44.40 | 43.99 | 74.00 | 30.01 | Peak |
| 4 | 2412.45 | 27.60 | 6.64 | 34.64 | 97.75 | 97.35 | 74.00 | -23.35 | Peak |

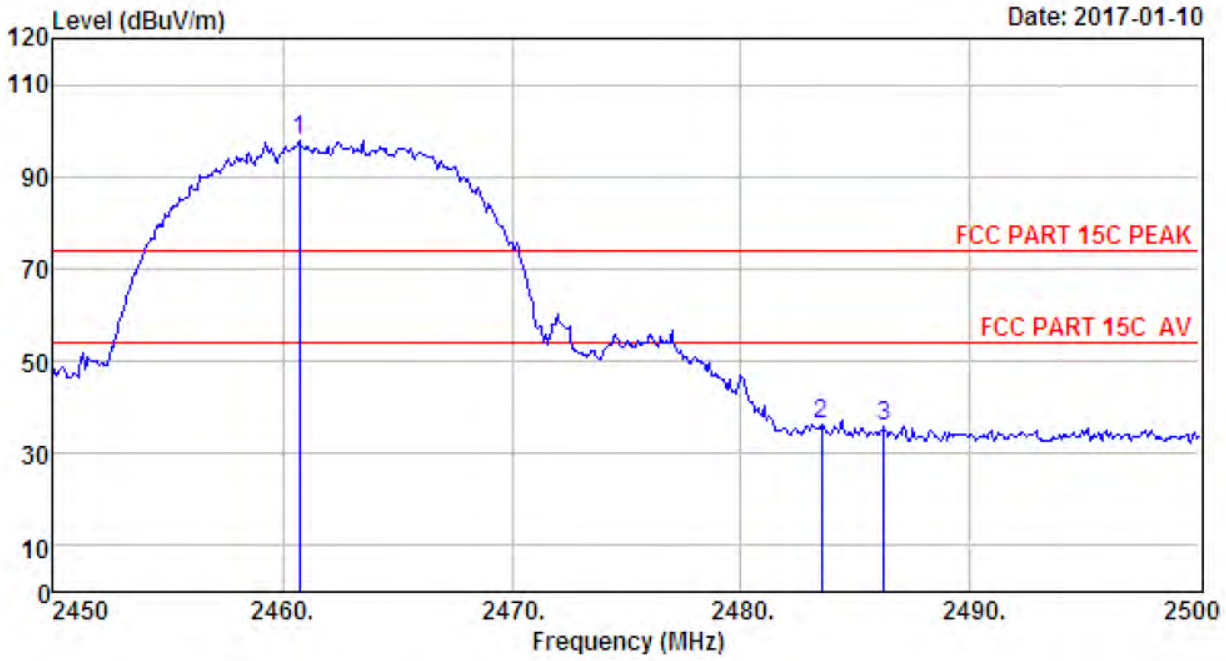
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 1# 966 Chamber Data no. : 50
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Big Blue 100
Power : DC 16V From Adapter Input AC 120V/60Hz
M/N : AD107A4BKA
Test Mode : IEEE 802.11b CH1 2412TX
Antenna 2

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2336.14 | 27.73 | 6.56 | 34.59 | 39.62 | 39.32 | 74.00 | 34.68 | Peak |
| 2 | 2390.00 | 27.64 | 6.62 | 34.62 | 34.20 | 33.84 | 74.00 | 40.16 | Peak |
| 3 | 2400.00 | 27.61 | 6.62 | 34.64 | 42.73 | 42.32 | 74.00 | 31.68 | Peak |
| 4 | 2412.45 | 27.60 | 6.64 | 34.64 | 96.64 | 96.24 | 74.00 | -22.24 | Peak |

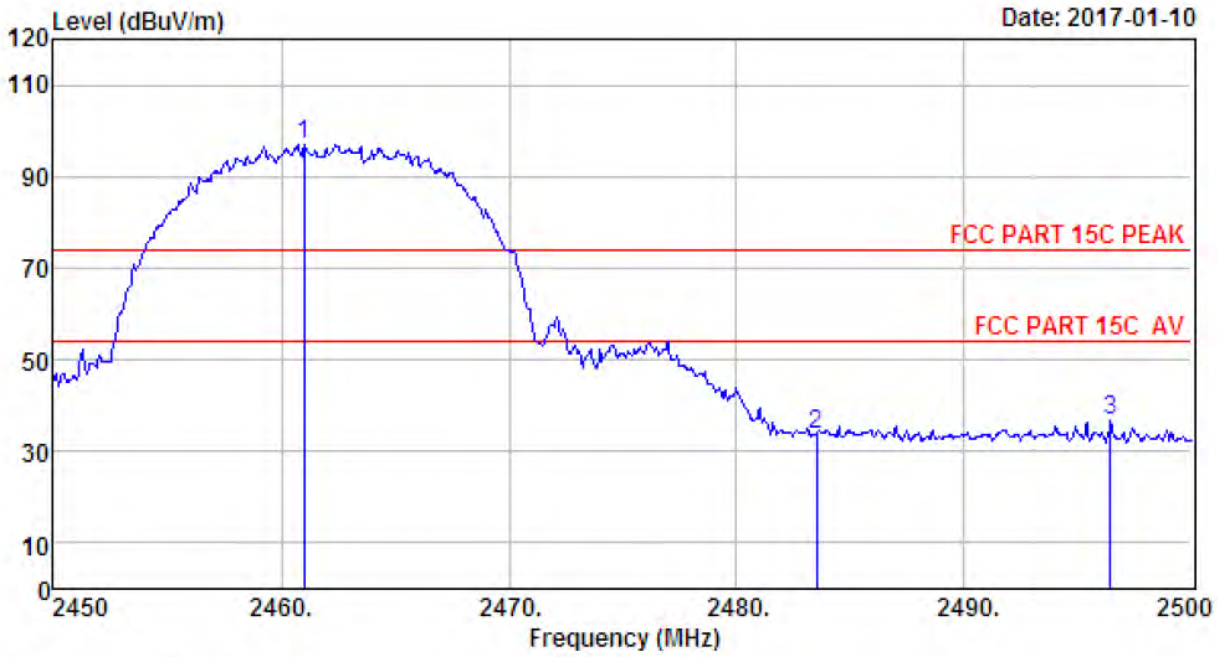
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.




```
Site no.      : 1# 966 Chamber              Data no.  : 51
Dis. / Ant.   : 3m   ANT 1-18G              Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C PEAK
Env. / Ins.   : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer      : Tony
EUT           : Big Blue 100
Power         : DC 16V From Adapter Input AC 120V/60Hz
M/N           : AD107A4BKA
Test Mode     : IEEE 802.11b CH11 2462TX
                Antenna 2
```

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2460.75 | 27.58 | 6.69 | 34.98 | 98.43 | 97.72 | 74.00 | -23.72 | Peak |
| 2 | 2483.50 | 27.58 | 6.71 | 35.11 | 37.30 | 36.48 | 74.00 | 37.52 | Peak |
| 3 | 2486.25 | 27.58 | 6.71 | 35.11 | 36.72 | 35.90 | 74.00 | 38.10 | Peak |

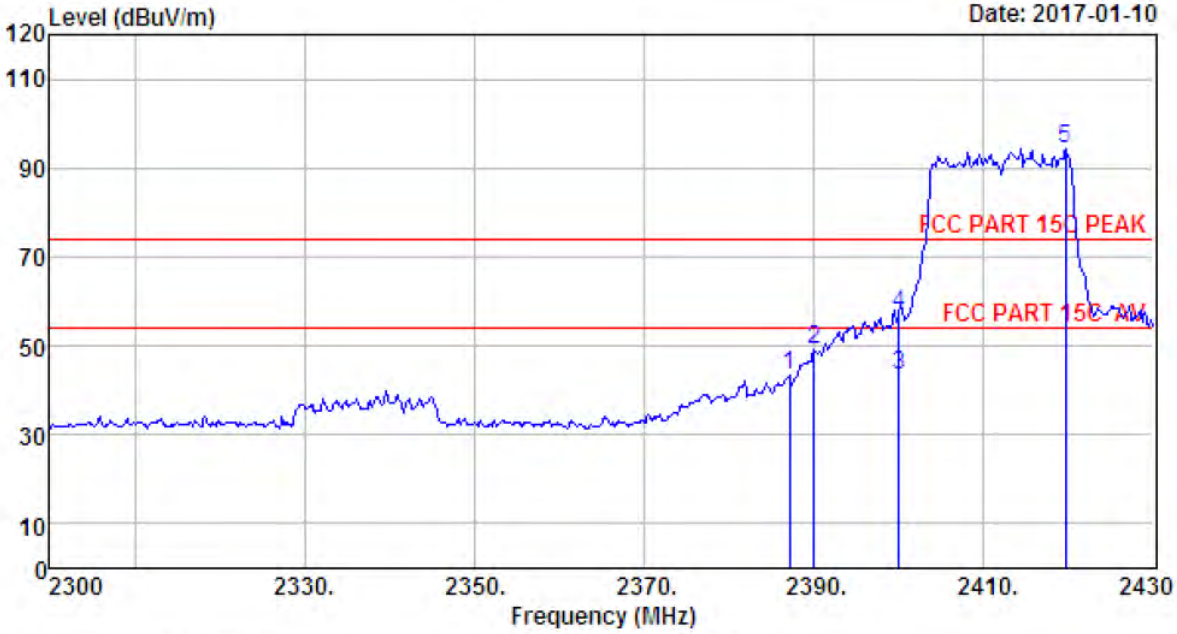
```
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
         2. The emission levels that are 20dB below the official
            limit are not reported.
```




Site no. : 1# 966 Chamber Data no. : 52
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Big Blue 100
Power : DC 16V From Adapter Input AC 120V/60Hz
M/N : AD107A4BKA
Test Mode : IEEE 802.11b CH11 2462TX
Antenna 2

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2461.00 | 27.58 | 6.69 | 34.98 | 97.84 | 97.13 | 74.00 | -23.13 | Peak |
| 2 | 2483.50 | 27.58 | 6.71 | 35.11 | 34.68 | 33.86 | 74.00 | 40.14 | Peak |
| 3 | 2496.40 | 27.57 | 6.73 | 35.24 | 37.74 | 36.80 | 74.00 | 37.20 | Peak |

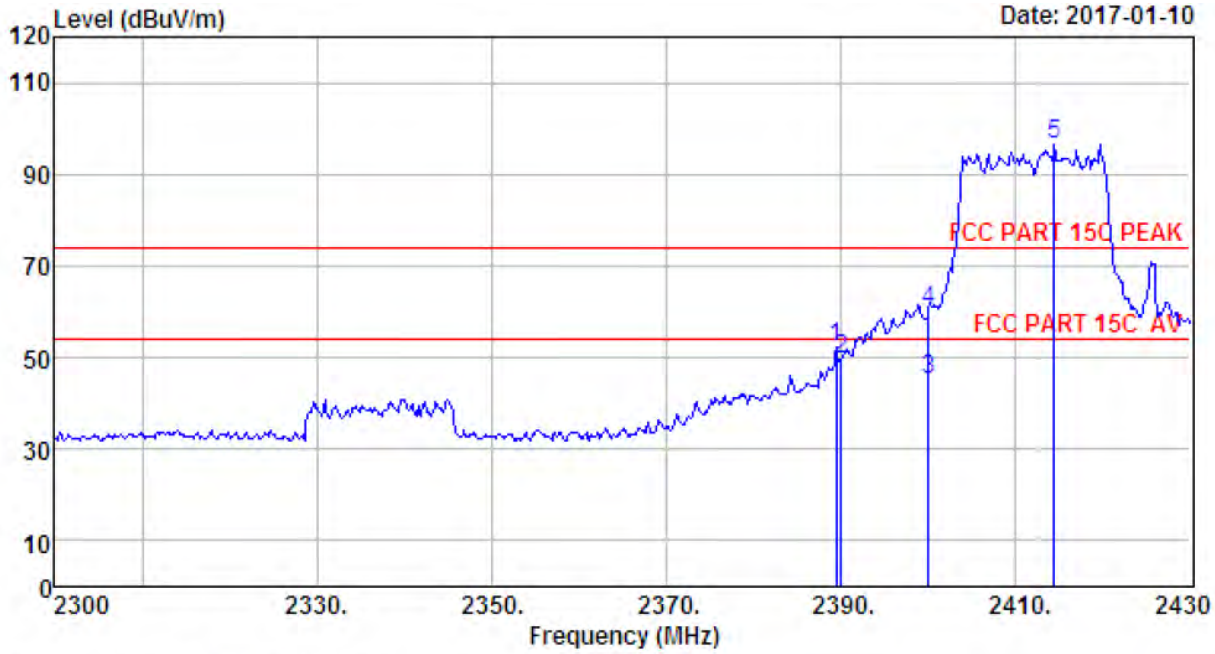
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 1# 966 Chamber Data no. : 53
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Big Blue 100
Power : DC 16V From Adapter Input AC 120V/60Hz
M/N : AD107A4BKA
Test Mode : IEEE 802.11g CH1 2412TX
Antenna 2

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2387.10 | 27.64 | 6.62 | 34.62 | 43.53 | 43.17 | 74.00 | 30.83 | Peak |
| 2 | 2390.00 | 27.64 | 6.62 | 34.62 | 49.42 | 49.06 | 74.00 | 24.94 | Peak |
| 3 | 2400.00 | 27.61 | 6.62 | 34.64 | 43.76 | 43.35 | 54.00 | 10.65 | Average |
| 4 | 2400.00 | 27.61 | 6.62 | 34.64 | 57.38 | 56.97 | 74.00 | 17.03 | Peak |
| 5 | 2419.60 | 27.60 | 6.66 | 34.74 | 94.94 | 94.46 | 74.00 | -20.46 | Peak |

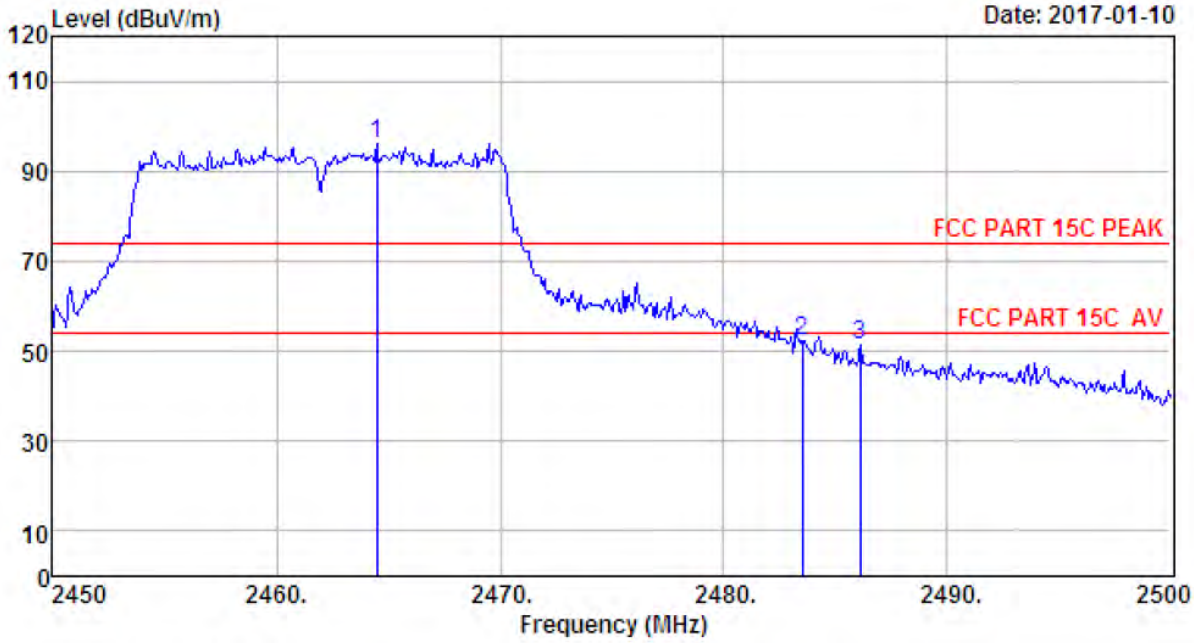
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 1# 966 Chamber Data no. : 54
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Big Blue 100
Power : DC 16V From Adapter Input AC 120V/60Hz
M/N : AD107A4BKA
Test Mode : IEEE 802.11g CH1 2412TX
Antenna 2

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2389.44 | 27.64 | 6.62 | 34.62 | 52.51 | 52.15 | 74.00 | 21.85 | Peak |
| 2 | 2390.00 | 27.64 | 6.62 | 34.62 | 50.05 | 49.69 | 74.00 | 24.31 | Peak |
| 3 | 2400.00 | 27.61 | 6.62 | 34.64 | 45.36 | 44.95 | 54.00 | 9.05 | Average |
| 4 | 2400.00 | 27.61 | 6.62 | 34.64 | 60.74 | 60.33 | 74.00 | 13.67 | Peak |
| 5 | 2414.40 | 27.60 | 6.64 | 34.64 | 97.04 | 96.64 | 74.00 | -22.64 | Peak |

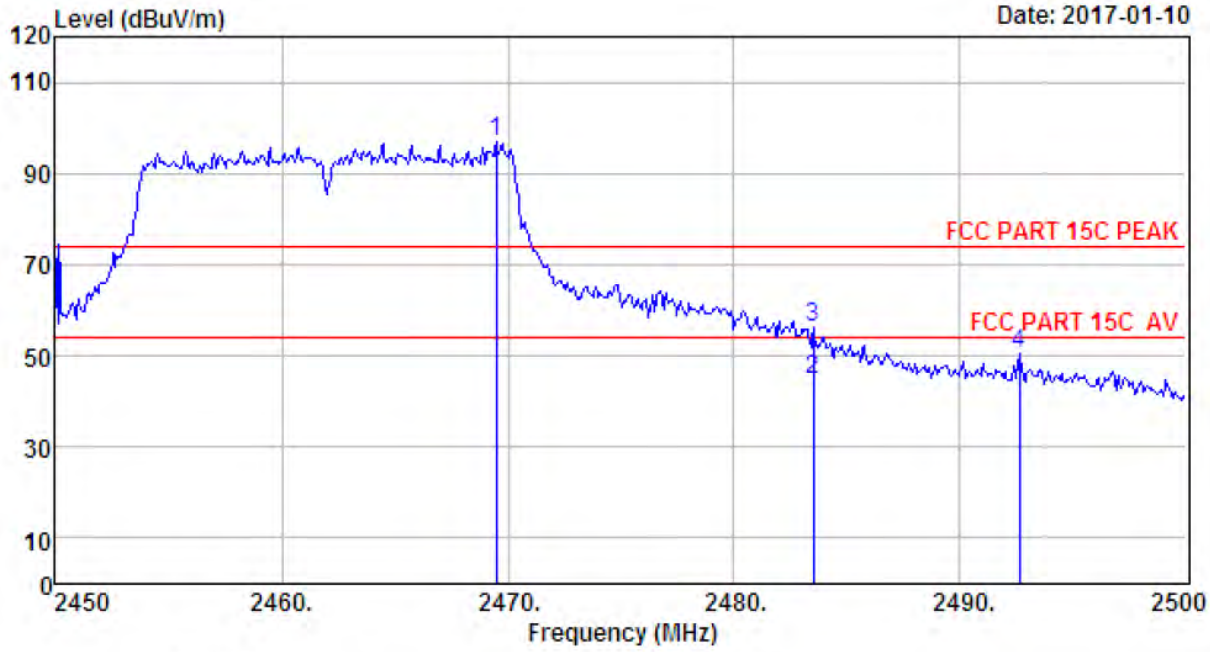
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 1# 966 Chamber Data no. : 55
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Big Blue 100
Power : DC 16V From Adapter Input AC 120V/60Hz
M/N : AD107A4BKA
Test Mode : IEEE 802.11g CH11 2462TX
Antenna 2

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2464.50 | 27.58 | 6.69 | 34.98 | 96.70 | 95.99 | 74.00 | -21.99 | Peak |
| 2 | 2483.50 | 27.58 | 6.71 | 35.11 | 53.05 | 52.23 | 74.00 | 21.77 | Peak |
| 3 | 2486.10 | 27.58 | 6.71 | 35.11 | 52.02 | 51.20 | 74.00 | 22.80 | Peak |

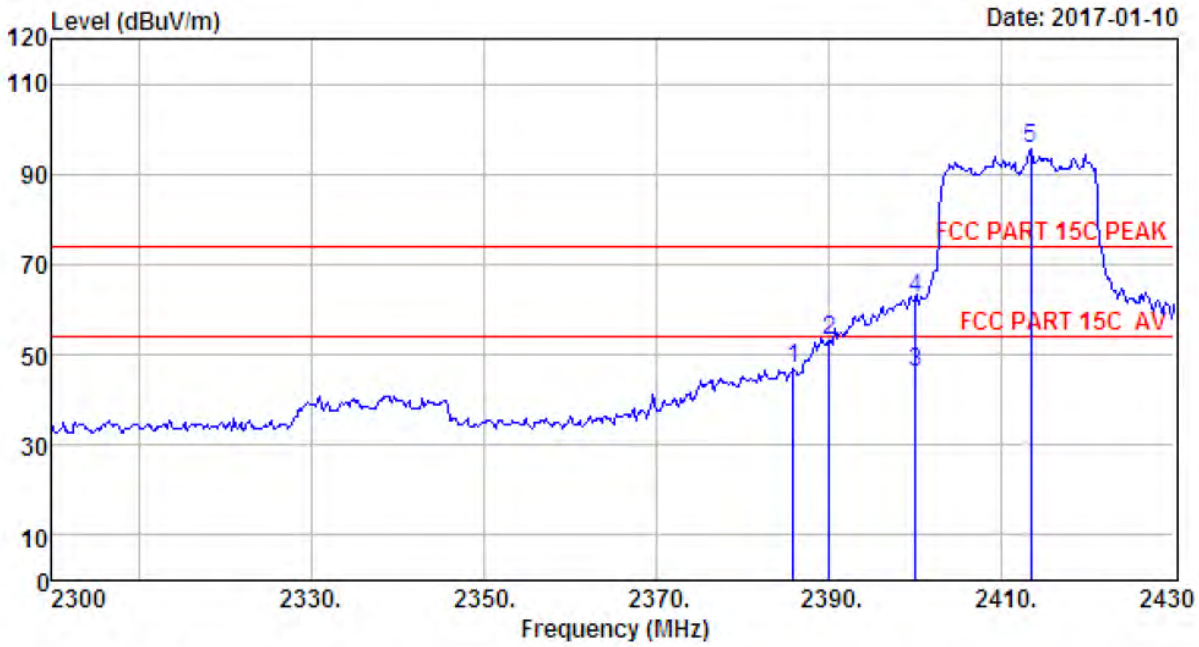
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 1# 966 Chamber Data no. : 56
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Big Blue 100
Power : DC 16V From Adapter Input AC 120V/60Hz
M/N : AD107A4BKA
Test Mode : IEEE 802.11g CH11 2462TX
Antenna 2

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2469.50 | 27.58 | 6.69 | 34.98 | 97.55 | 96.84 | 74.00 | -22.84 | Peak |
| 2 | 2483.50 | 27.58 | 6.71 | 35.11 | 45.39 | 44.57 | 54.00 | 9.43 | Average |
| 3 | 2483.50 | 27.58 | 6.71 | 35.11 | 56.95 | 56.13 | 74.00 | 17.87 | Peak |
| 4 | 2492.60 | 27.58 | 6.73 | 35.24 | 51.41 | 50.48 | 74.00 | 23.52 | Peak |

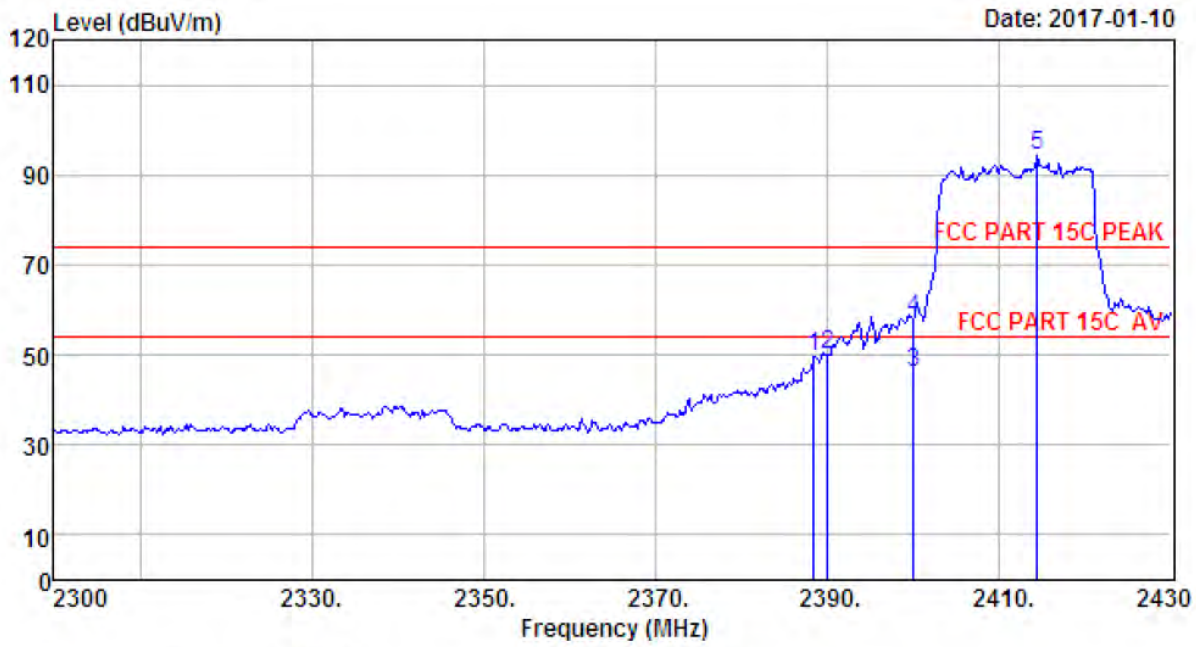
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.




```
Site no.       : 1# 966 Chamber              Data no.   : 57
Dis. / Ant.    : 3m   ANT 1-18G              Ant. pol. : VERTICAL
Limit          : FCC PART 15C PEAK
Env. / Ins.    : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer       : Tony
EUT            : Big Blue 100
Power          : DC 16V From Adapter Input AC 120V/60Hz
M/N            : AD107A4BKA
Test Mode      : IEEE 802.11n HT20 CH1 2412TX
                 Antenna 2
```

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2385.80 | 27.64 | 6.62 | 34.62 | 47.08 | 46.72 | 74.00 | 27.28 | Peak |
| 2 | 2390.00 | 27.64 | 6.62 | 34.62 | 53.67 | 53.31 | 74.00 | 20.69 | Peak |
| 3 | 2400.00 | 27.61 | 6.62 | 34.64 | 46.25 | 45.84 | 54.00 | 8.16 | Average |
| 4 | 2400.00 | 27.61 | 6.62 | 34.64 | 62.97 | 62.56 | 74.00 | 11.44 | Peak |
| 5 | 2413.36 | 27.60 | 6.64 | 34.64 | 96.01 | 95.61 | 74.00 | -21.61 | Peak |

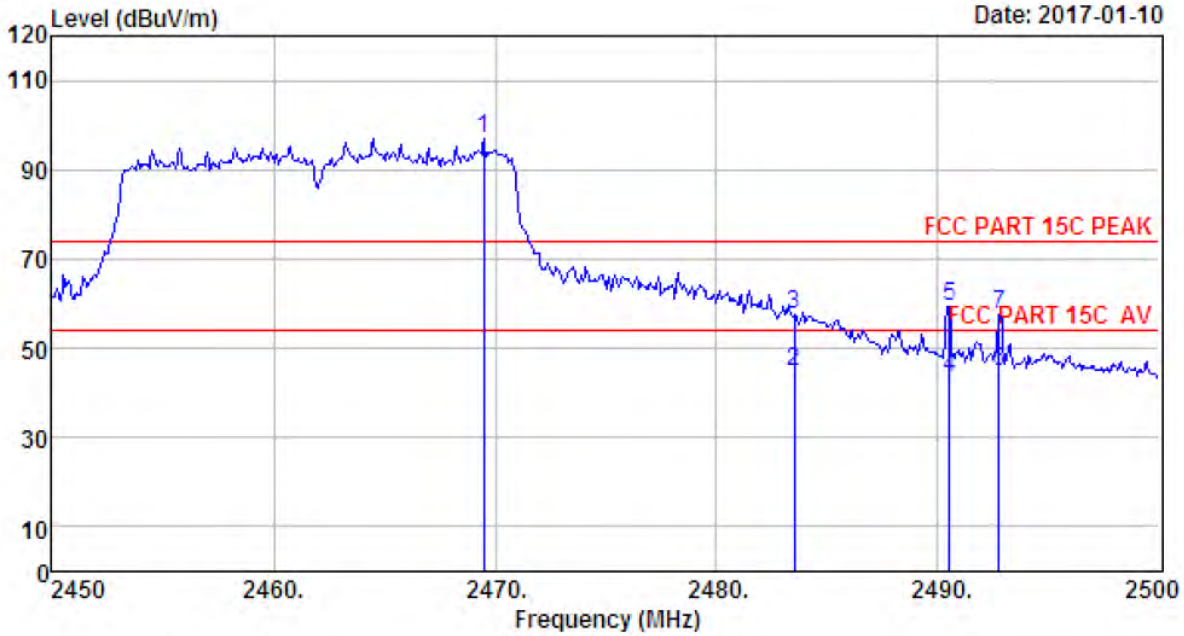
```
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
         2. The emission levels that are 20dB below the official
            limit are not reported.
```




Site no. : 1# 966 Chamber Data no. : 58
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Big Blue 100
Power : DC 16V From Adapter Input AC 120V/60Hz
M/N : AD107A4BKA
Test Mode : IEEE 802.11n HT20 CH1 2412TX
Antenna 2

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2388.40 | 27.64 | 6.62 | 34.62 | 50.07 | 49.71 | 74.00 | 24.29 | Peak |
| 2 | 2390.00 | 27.64 | 6.62 | 34.62 | 50.61 | 50.25 | 74.00 | 23.75 | Peak |
| 3 | 2400.00 | 27.61 | 6.62 | 34.64 | 46.26 | 45.85 | 54.00 | 8.15 | Average |
| 4 | 2400.00 | 27.61 | 6.62 | 34.64 | 58.58 | 58.17 | 74.00 | 15.83 | Peak |
| 5 | 2414.40 | 27.60 | 6.64 | 34.64 | 94.65 | 94.25 | 74.00 | -20.25 | Peak |

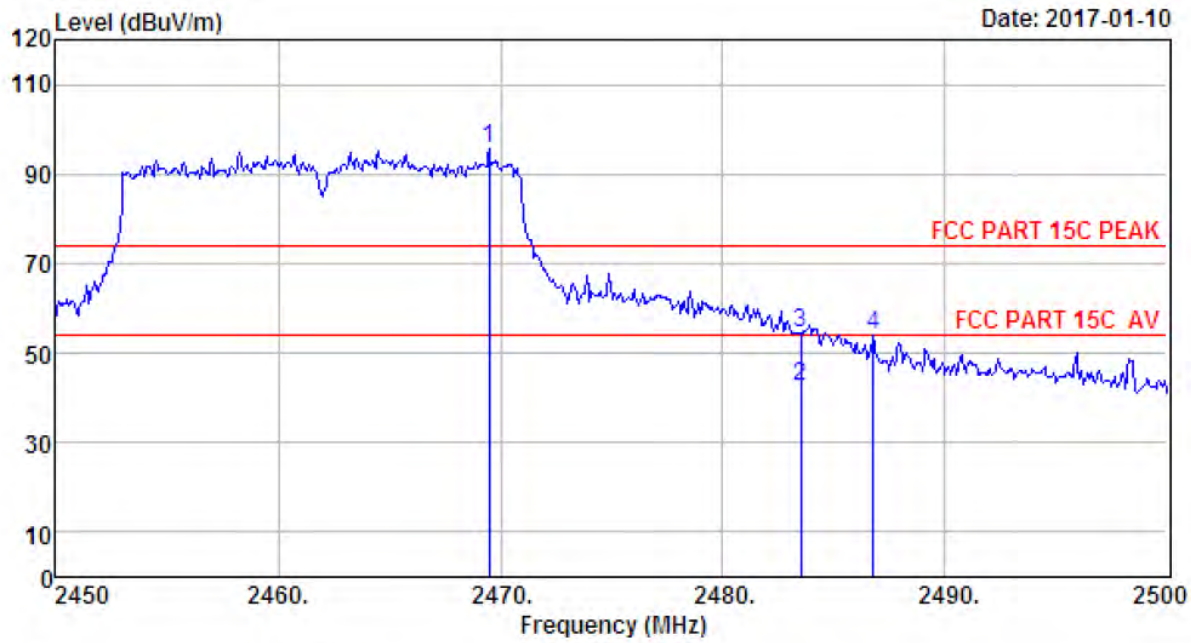
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 1# 966 Chamber Data no. : 59
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Big Blue 100
Power : DC 16V From Adapter Input AC 120V/60Hz
M/N : AD107A4BKA
Test Mode : IEEE 802.11n HT20 CH11 2462TX
Antenna 2

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2469.50 | 27.58 | 6.69 | 34.98 | 97.82 | 97.11 | 74.00 | -23.11 | Peak |
| 2 | 2483.50 | 27.58 | 6.71 | 35.11 | 45.39 | 44.57 | 54.00 | 9.43 | Average |
| 3 | 2483.50 | 27.58 | 6.71 | 35.11 | 58.17 | 57.35 | 74.00 | 16.65 | Peak |
| 4 | 2490.50 | 27.58 | 6.73 | 35.24 | 44.48 | 43.55 | 54.00 | 10.45 | Average |
| 5 | 2490.50 | 27.58 | 6.73 | 35.24 | 60.30 | 59.37 | 74.00 | 14.63 | Peak |
| 6 | 2492.75 | 27.58 | 6.73 | 35.24 | 45.61 | 44.68 | 54.00 | 9.32 | Average |
| 7 | 2492.75 | 27.58 | 6.73 | 35.24 | 58.58 | 57.65 | 74.00 | 16.35 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.




Site no. : 1# 966 Chamber Data no. : 60
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Big Blue 100
Power : DC 16V From Adapter Input AC 120V/60Hz
M/N : AD107A4BKA
Test Mode : IEEE 802.11n HT20 CH11 2462TX
Antenna 2

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp Factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2469.50 | 27.58 | 6.69 | 34.98 | 96.50 | 95.79 | 74.00 | -21.79 | Peak |
| 2 | 2483.50 | 27.58 | 6.71 | 35.11 | 43.39 | 42.57 | 54.00 | 11.43 | Average |
| 3 | 2483.50 | 27.58 | 6.71 | 35.11 | 55.15 | 54.33 | 74.00 | 19.67 | Peak |
| 4 | 2486.75 | 27.58 | 6.71 | 35.11 | 54.69 | 53.87 | 74.00 | 20.13 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

# 6 6dB & 20dB Bandwidth Test

## 6.1 Limit

For direct sequence systems, the minimum 6dB bandwidth shall be at least 500kHz

## 6.2 Test Procedure for 6dB

1, The transmitter output (antenna port) was connected to the spectrum analyzer. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable.

2, Follow the test procedure as described in KDB 558074

(1). Set resolution bandwidth (RBW) = 100 kHz.

(2). Set the video bandwidth (VBW) ≥ 3 x RBW.

(3). Detector = Peak.

(4). Trace mode = max hold.

(5). Sweep = auto couple.

(6). Allow the trace to stabilize.

(7). Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

## 6.3 Test Procedure for 20dB

1, The transmitter output (antenna port) was connected to the spectrum analyzer. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable.

2, Follow the test procedure as described in C63.10

(1). The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the EMI receiver or spectrum analyzer shall be between two times and five times the OBW.

(2). The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW andvideo bandwidth (VBW) shall be approximately three times RBW, unless otherwise specified by the applicable requirement.

(3). Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2.

(4). Steps a) through c) might require iteration to adjust within the specified tolerances.

(5). The dynamic range of the instrument at the selected RBW shall be more than 10 dB below the target “−xx dB down” requirement; that is, if the requirement calls for measuring the −20 dB OBW, the instrument noise floor at the selected RBW shall be at least 30 dB below the reference value.

(6). Set detection mode to peak and trace mode to max hold.

(7). Determine the reference value: Set the EUT to transmit an unmodulated carrier or modulated signal, as applicable. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value).

(8). Determine the “−xx dB down amplitude” using [(reference value) − xx]. Alternatively, this calculation may be made by using the marker-delta function of the instrument.

(9). If the reference value is determined by an unmodulated carrier, then turn the EUT modulation ON, and either clear the existing trace or start a new trace on the spectrum analyzer and allow the new trace to stabilize. Otherwise, the trace from step g) shall be used for step j).

(10). Place two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “_xx dB down amplitude” determined in step h). If a marker is below this “−xx dB down amplitude” value,

then it shall be as close as possible to this value. The occupied bandwidth is the frequency difference between the two markers. Alternatively, set a marker at the lowest frequency of the envelope of the spectral display, such that the marker is at or slightly below the “_xx dB down amplitude” determined in step h). Reset the marker-delta function and move the marker to the other side of the emission until the delta marker amplitude is at the same level as the reference marker amplitude. The marker-delta frequency reading at this point is the specified emission bandwidth.

(11). The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

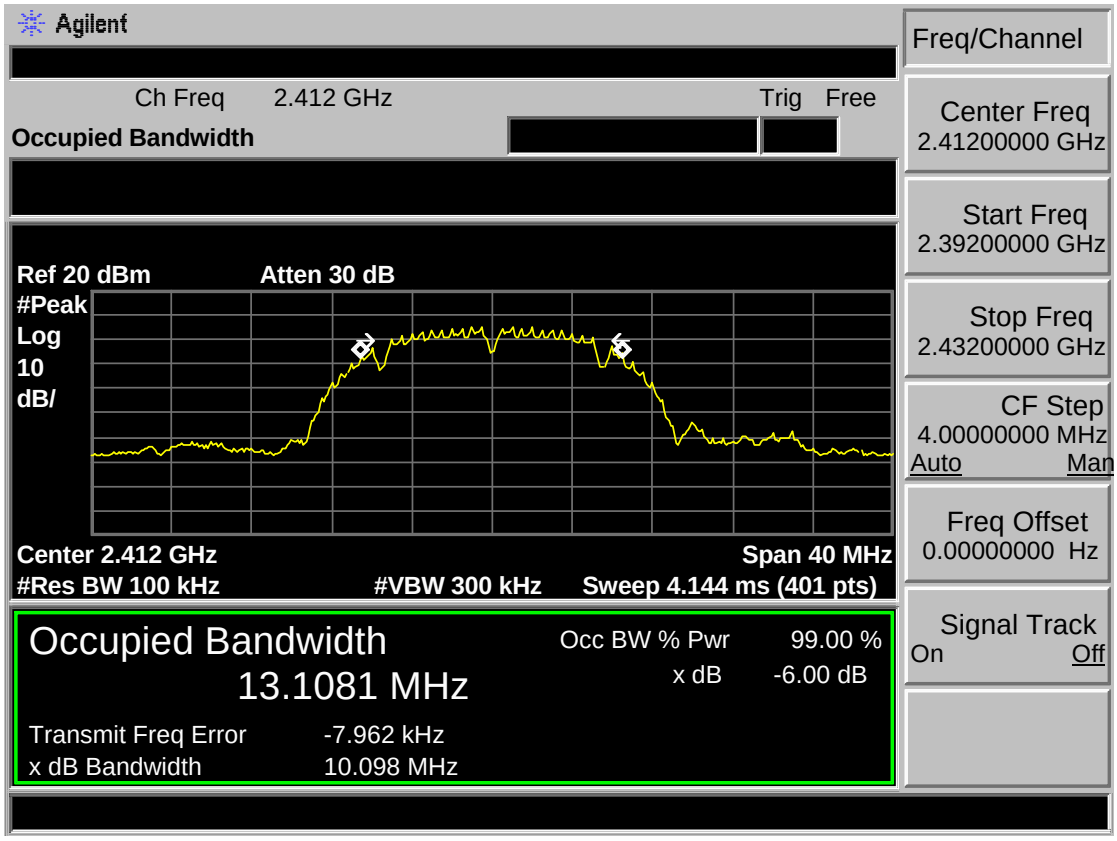
## 6.4 Test Result

| EUT: Big Blue 100 | | | | |
|---|---|---|---|---|
| M/N: AD107A4BKA | | | | |
| Test date: 2017-01-20 | | Tested by: Tony.Tang | | Test site: RF Site |
| Test Mode | CH | 6dB bandwidth（MHz） | 20dB bandwidth（MHz） | Limit (KHz) |
| Antenna 1 | | | | |
| IEEE 802.11 b | CH1 | 10.098 | 15.298 | >500 |
| | CH6 | 10.087 | 15.310 | >500 |
| | CH11 | 10.105 | 15.336 | >500 |
| IEEE 802.11 g | CH1 | 16.416 | 18.787 | >500 |
| | CH6 | 16.433 | 18.760 | >500 |
| | CH11 | 16.447 | 18.744 | >500 |
| IEEE 802.11 n HT 20 | CH1 | 17.657 | 19.402 | >500 |
| | CH6 | 17.514 | 19.408 | >500 |
| | CH11 | 17.624 | 19.470 | >500 |
| Anetnna 2 | | | | |
| IEEE 802.11 b | CH1 | 10.035 | 15.303 | >500 |
| | CH6 | 10.105 | 15.323 | >500 |
| | CH11 | 10.109 | 15.323 | >500 |
| IEEE 802.11 g | CH1 | 16.432 | 18.764 | >500 |
| | CH6 | 16.430 | 18.728 | >500 |
| | CH11 | 16.440 | 18.743 | >500 |
| IEEE 802.11 n HT 20 | CH1 | 17.501 | 19.347 | >500 |
| | CH6 | 17.592 | 19.551 | >500 |
| | CH11 | 17.639 | 19.474 | >500 |
| Conclusion：PASS | | | | |

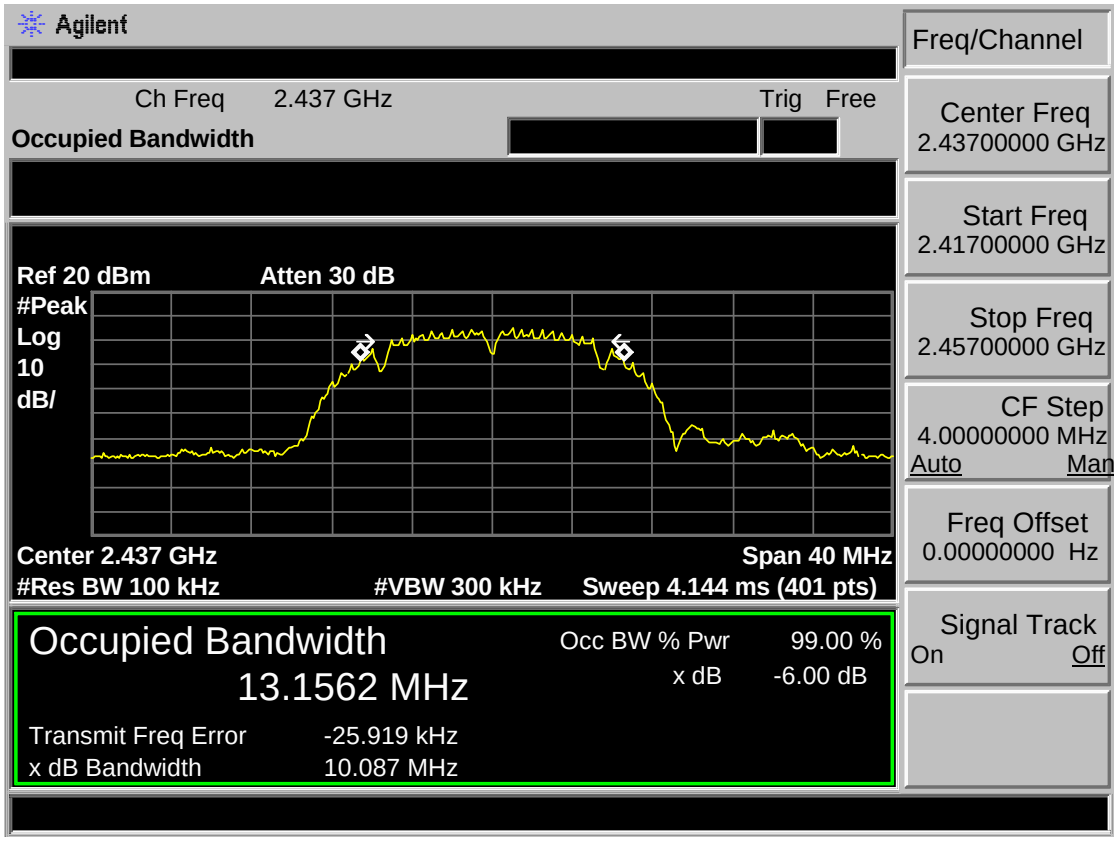
## 6.5 6dB Test Data

Antenna 1

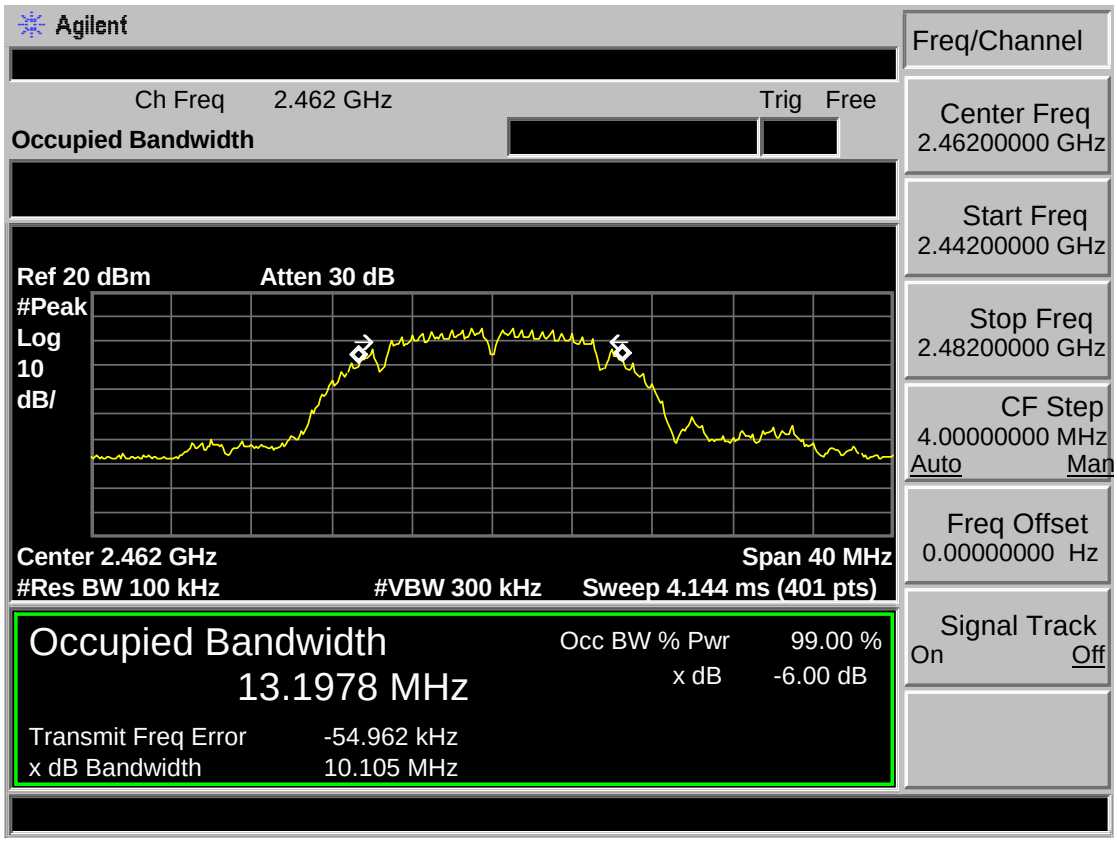
Test Mode: IEEE 802.11b 2412MHz



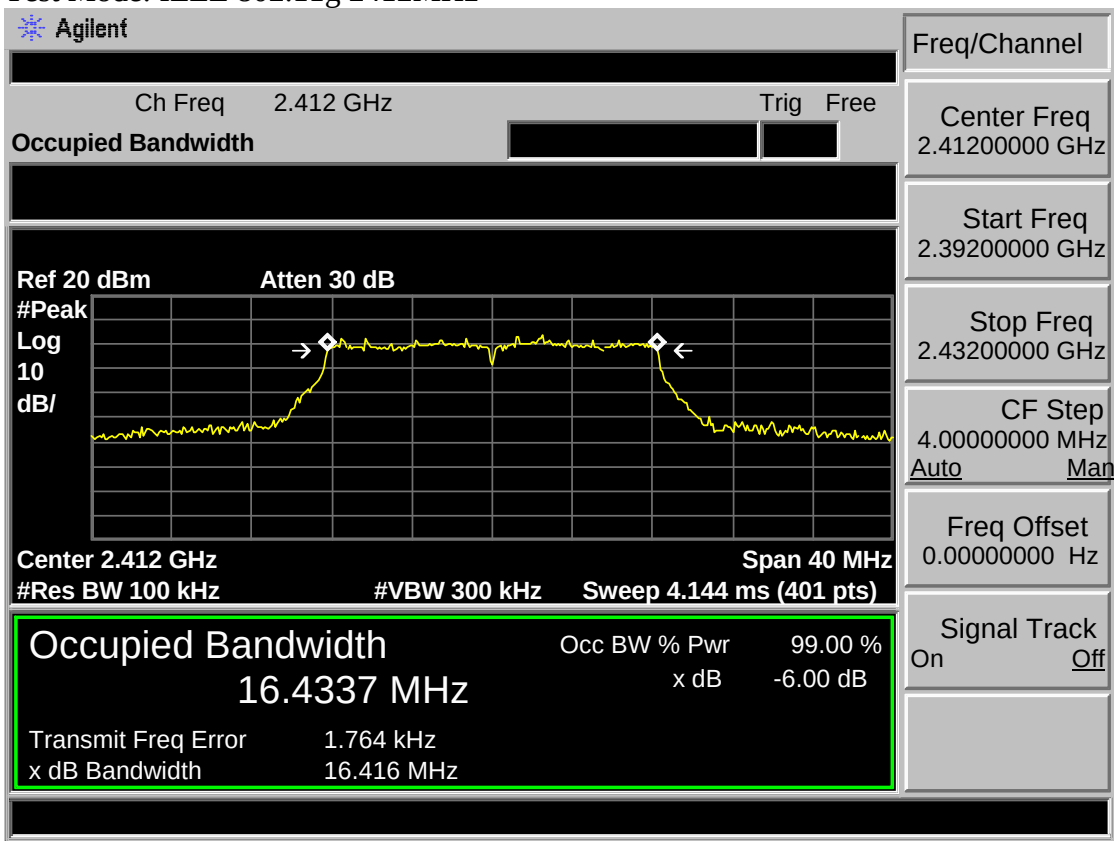

Test Mode: IEEE 802.11b 2437MHz



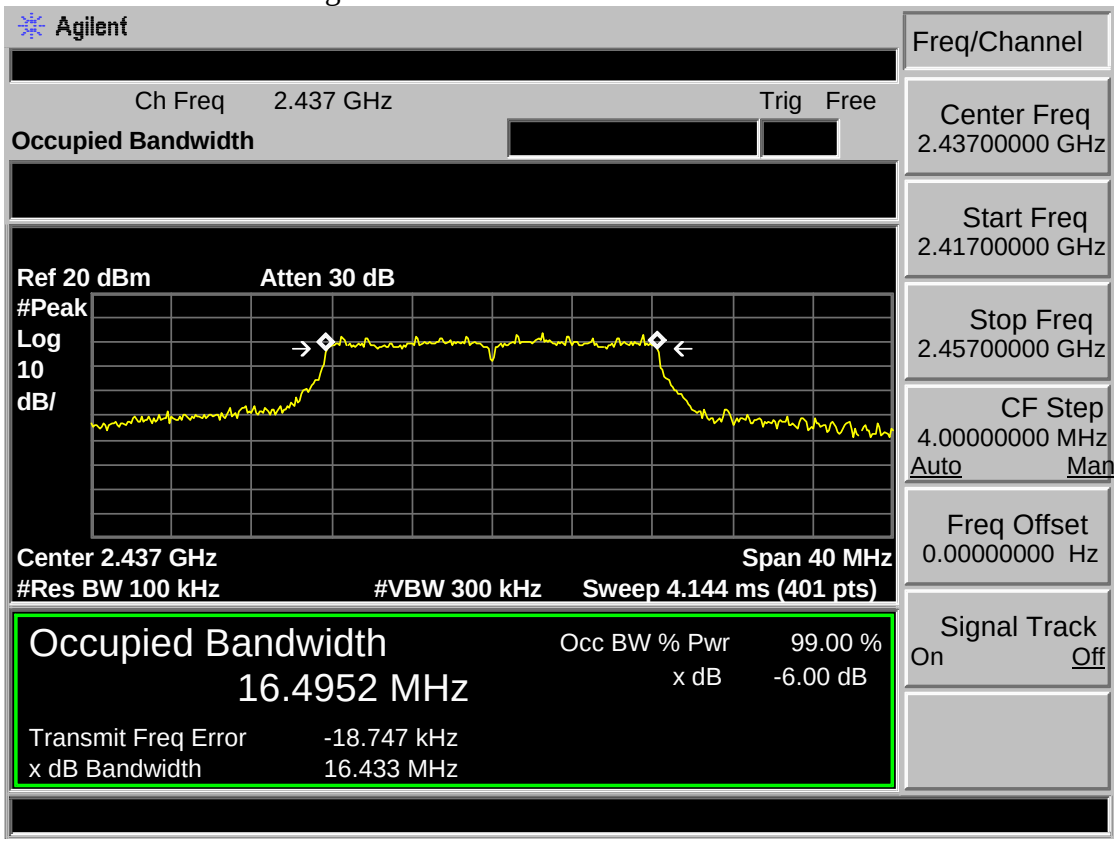
Test Mode: IEEE 802.11b 2462MHz



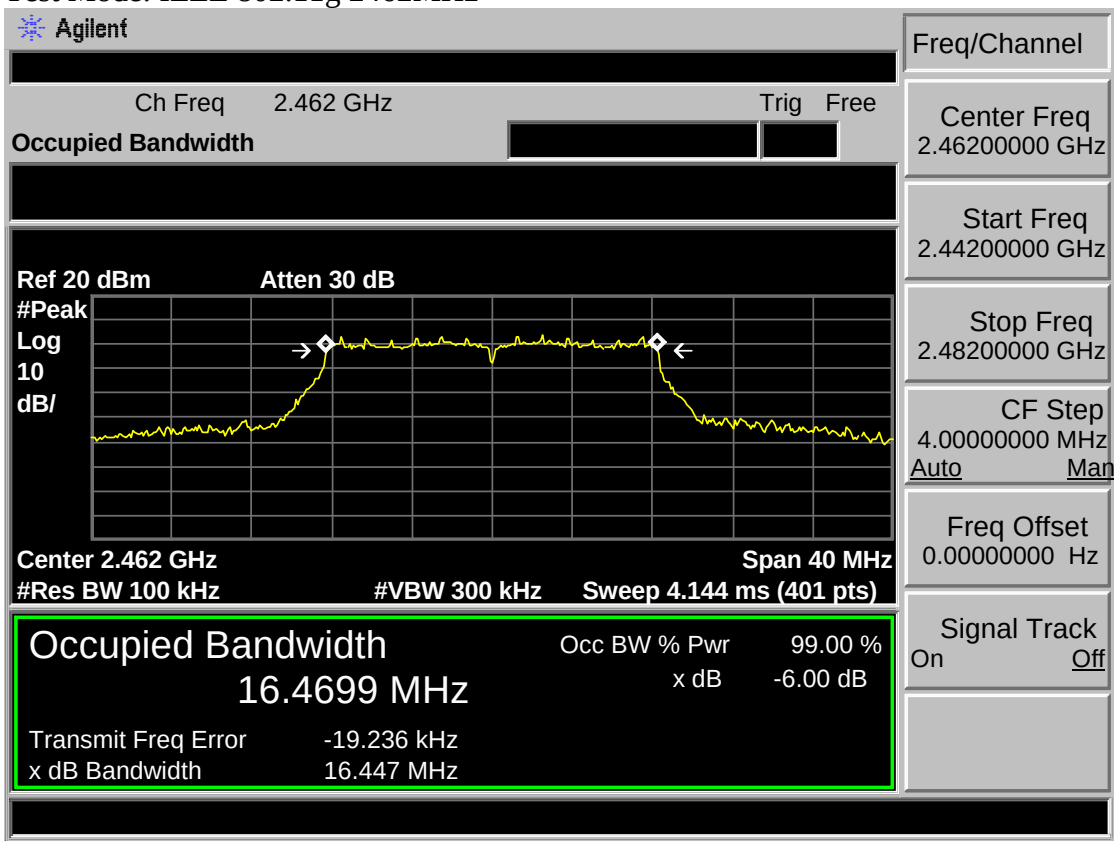
Test Mode: IEEE 802.11g 2412MHz



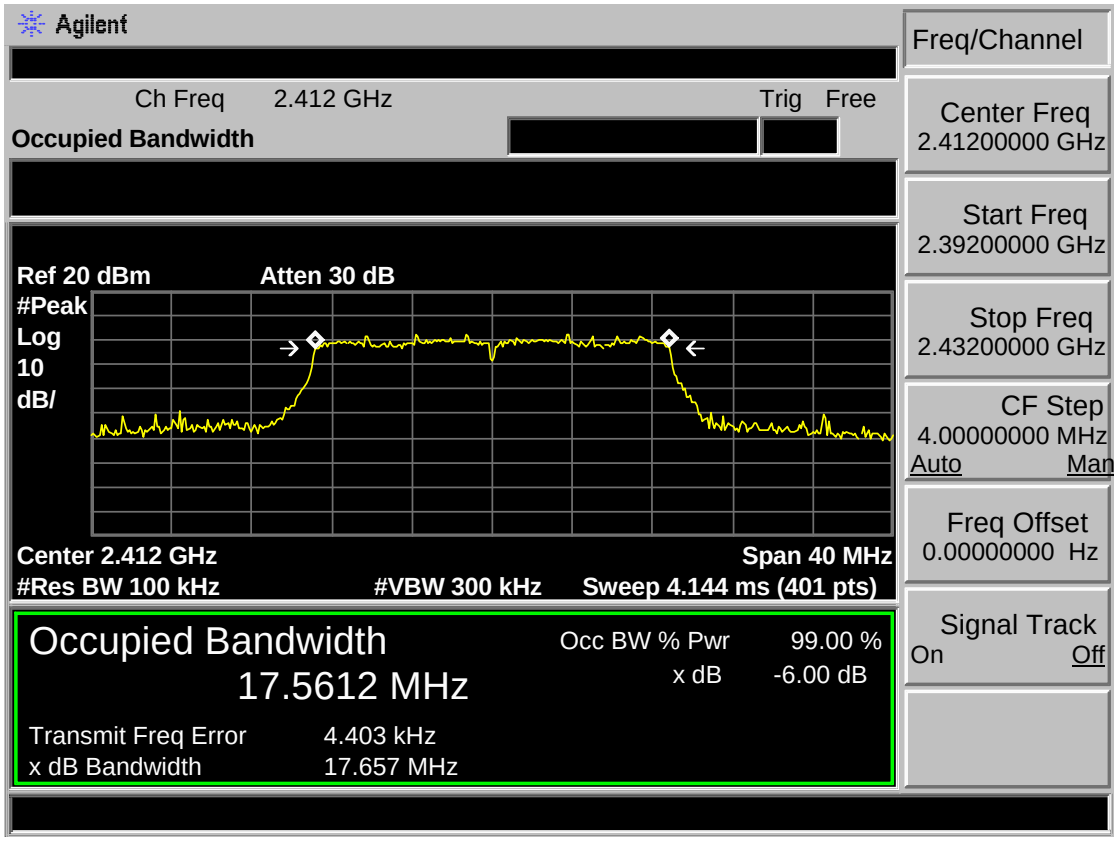

Test Mode: IEEE 802.11g 2437MHz



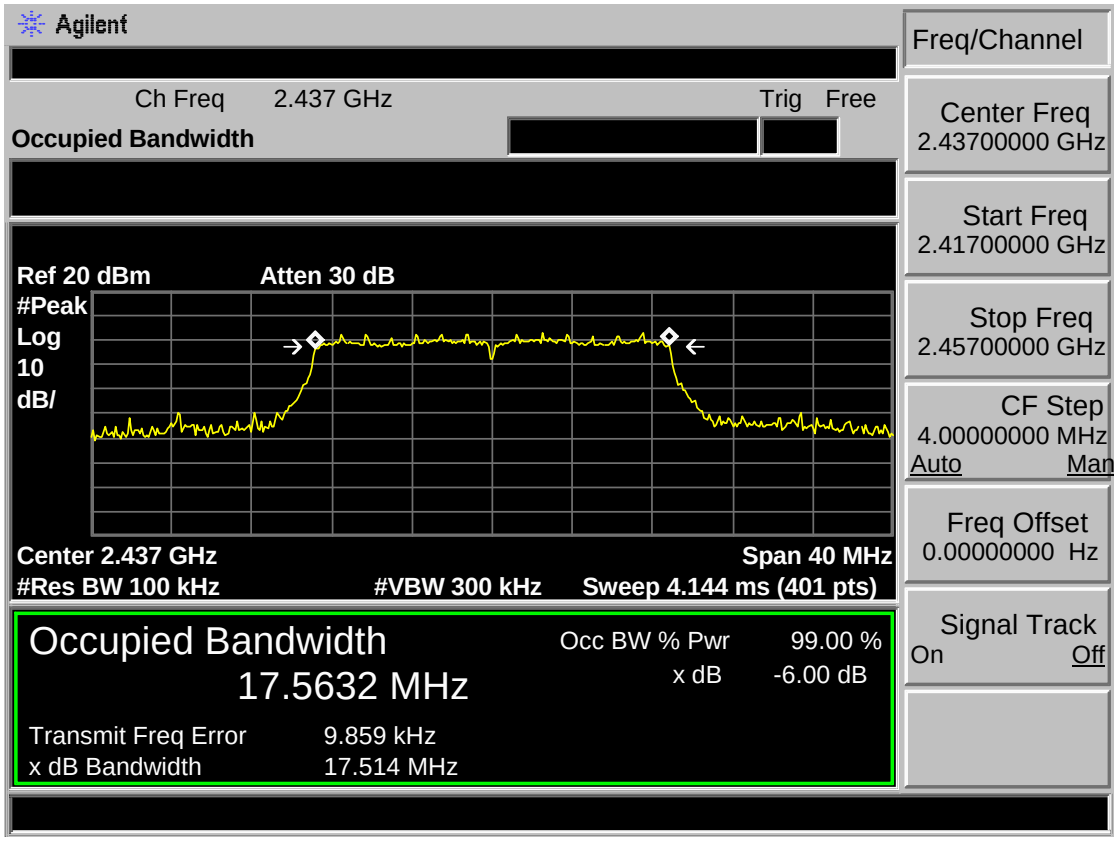
Test Mode: IEEE 802.11g 2462MHz



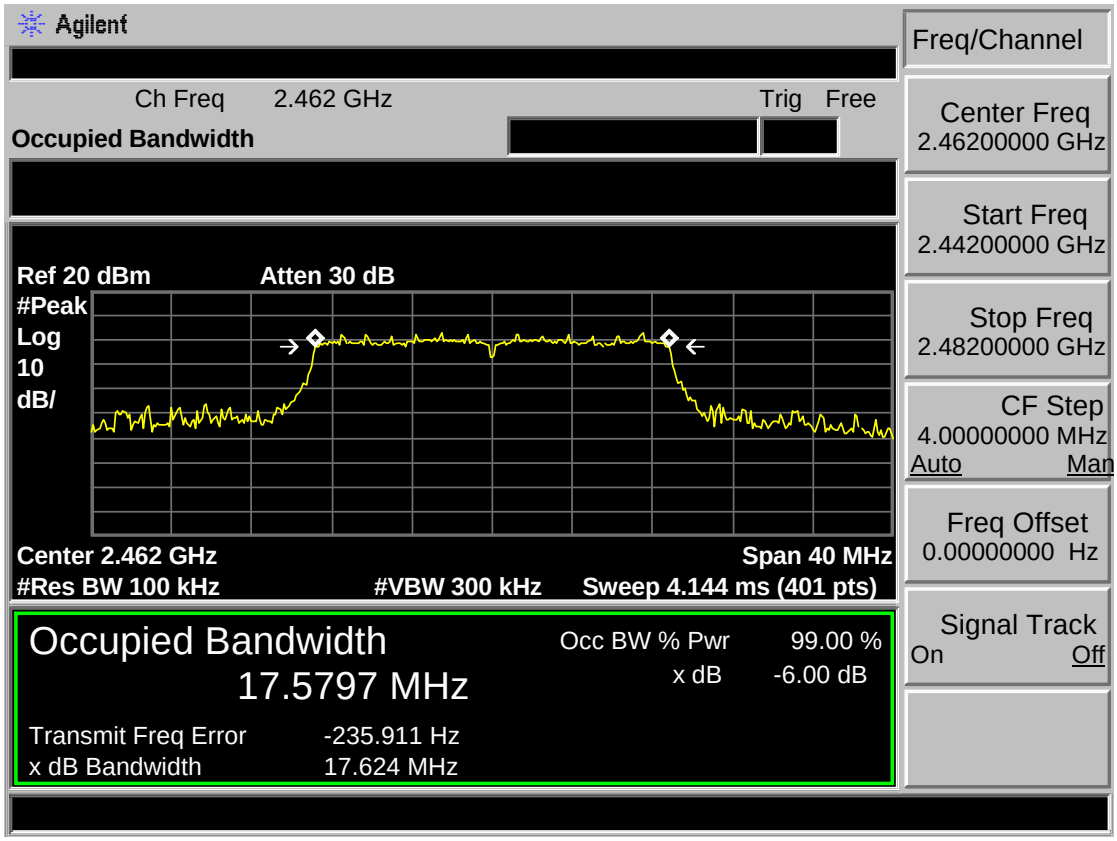
Test Mode: IEEE 802.11n HT20 2412MHz




Test Mode: IEEE 802.11n HT20 2437MHz

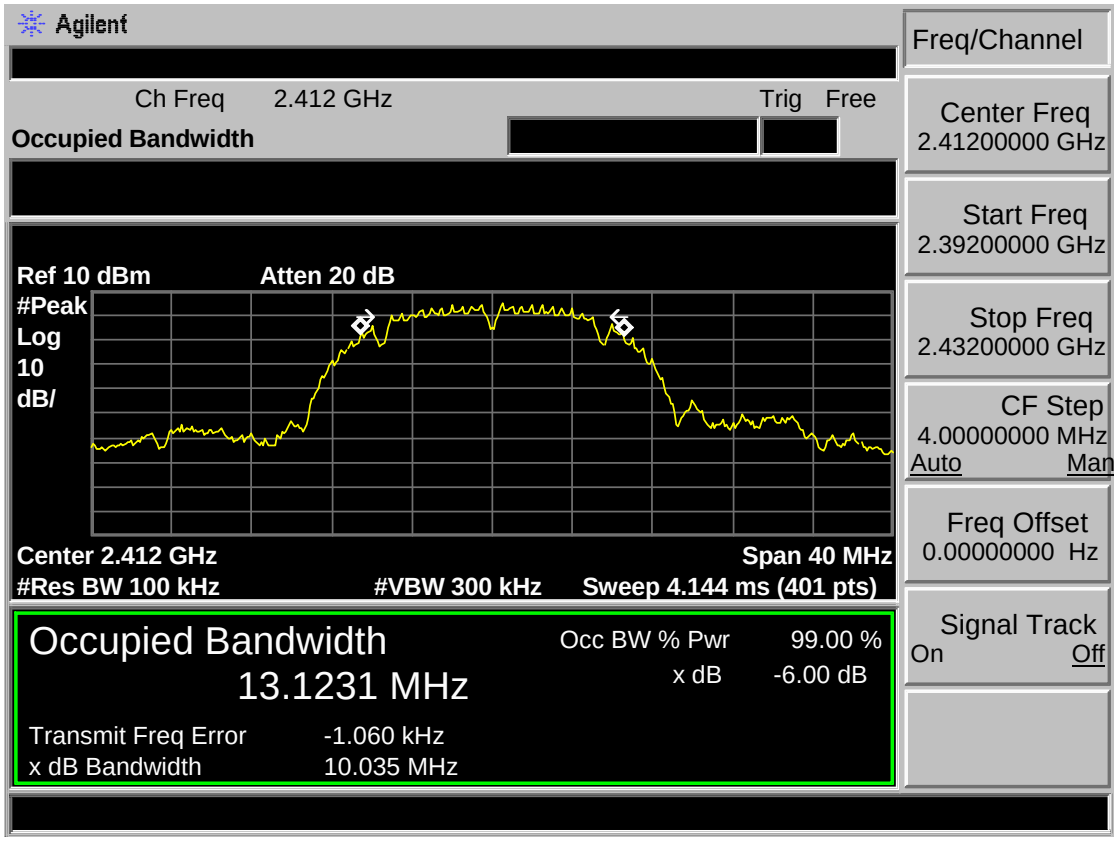


Test Mode: IEEE 802.11n HT20 2462MHz

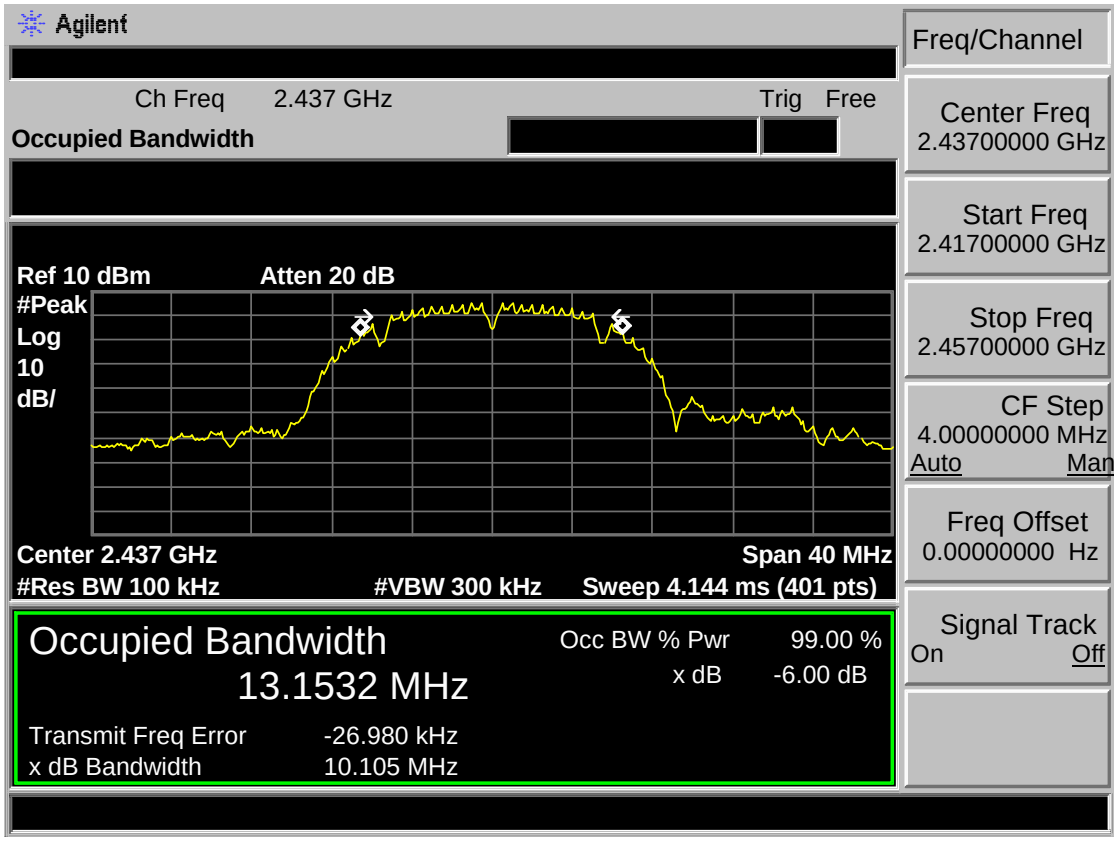


Antenna 2

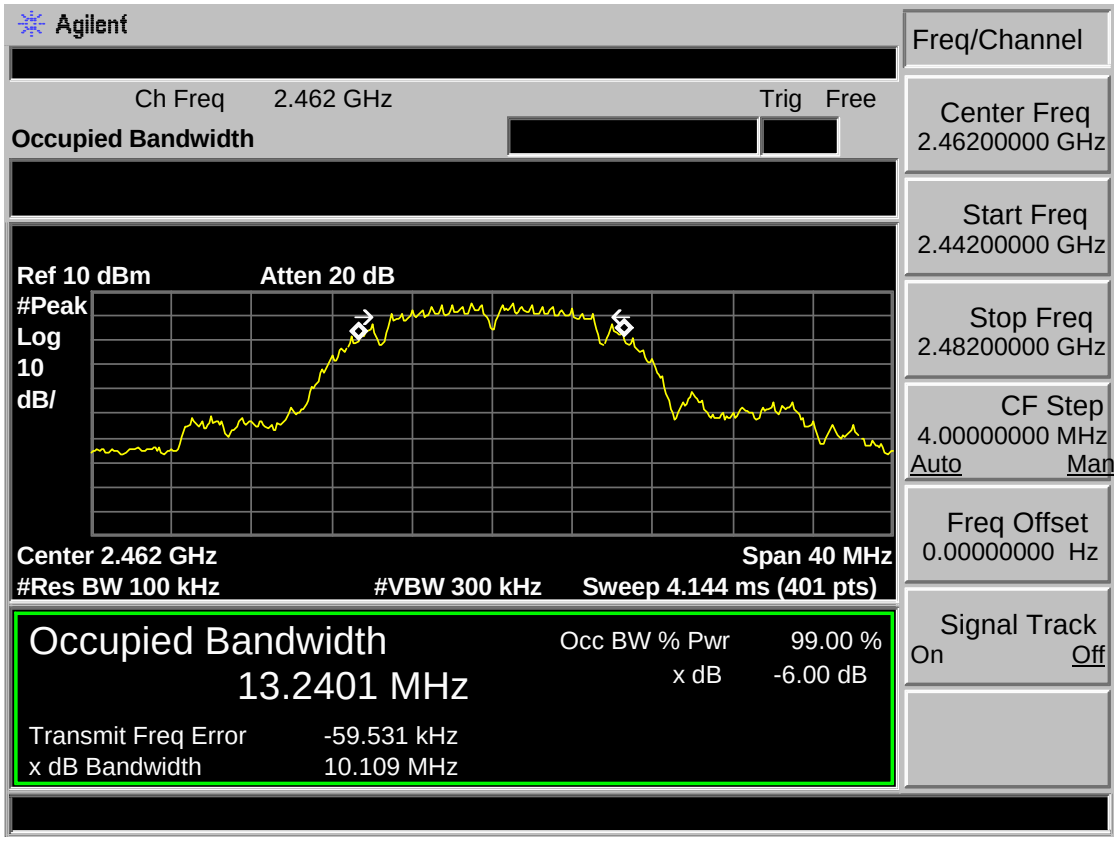
Test Mode: IEEE 802.11b 2412MHz



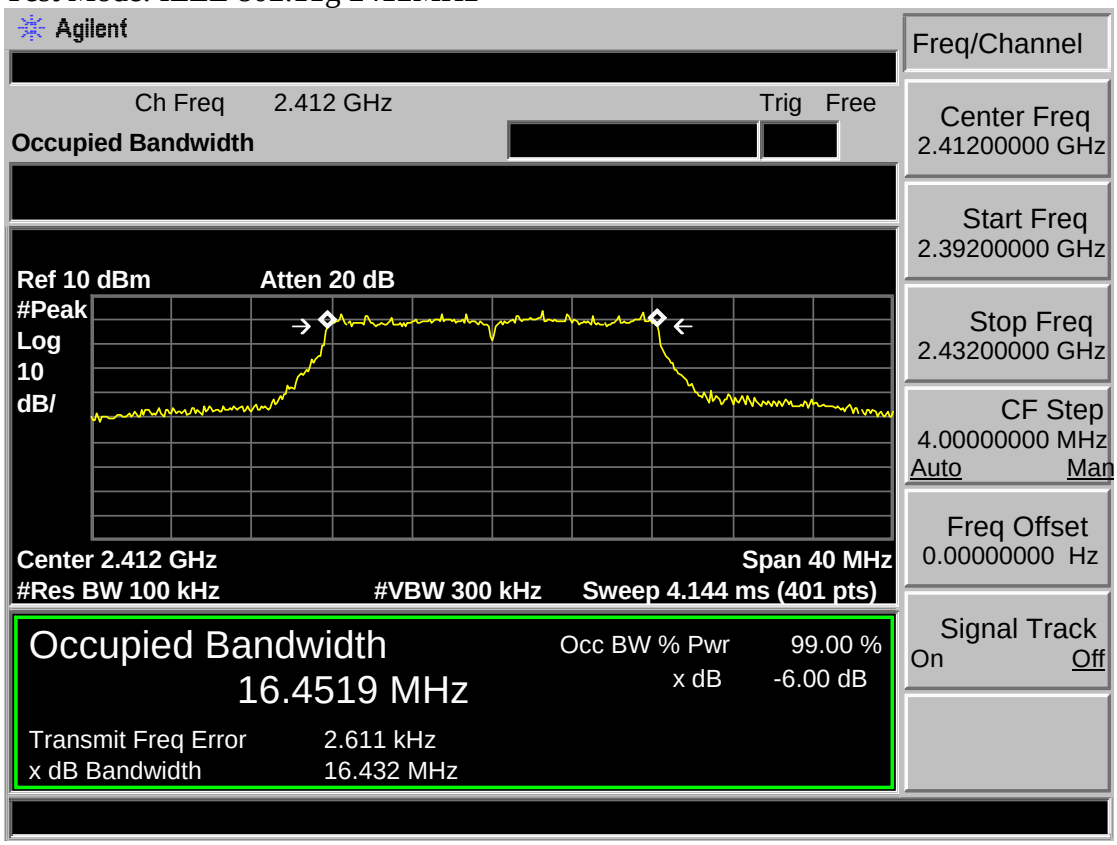

Test Mode: IEEE 802.11b 2437MHz



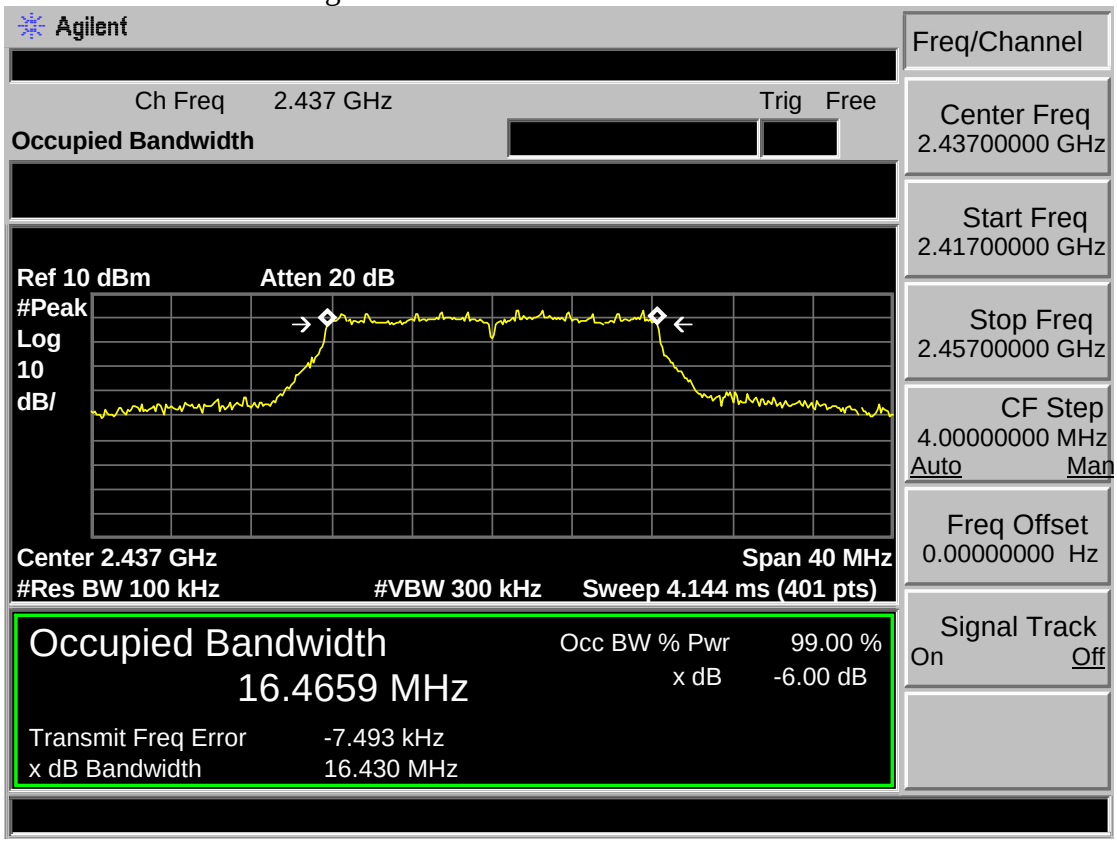
Test Mode: IEEE 802.11b 2462MHz



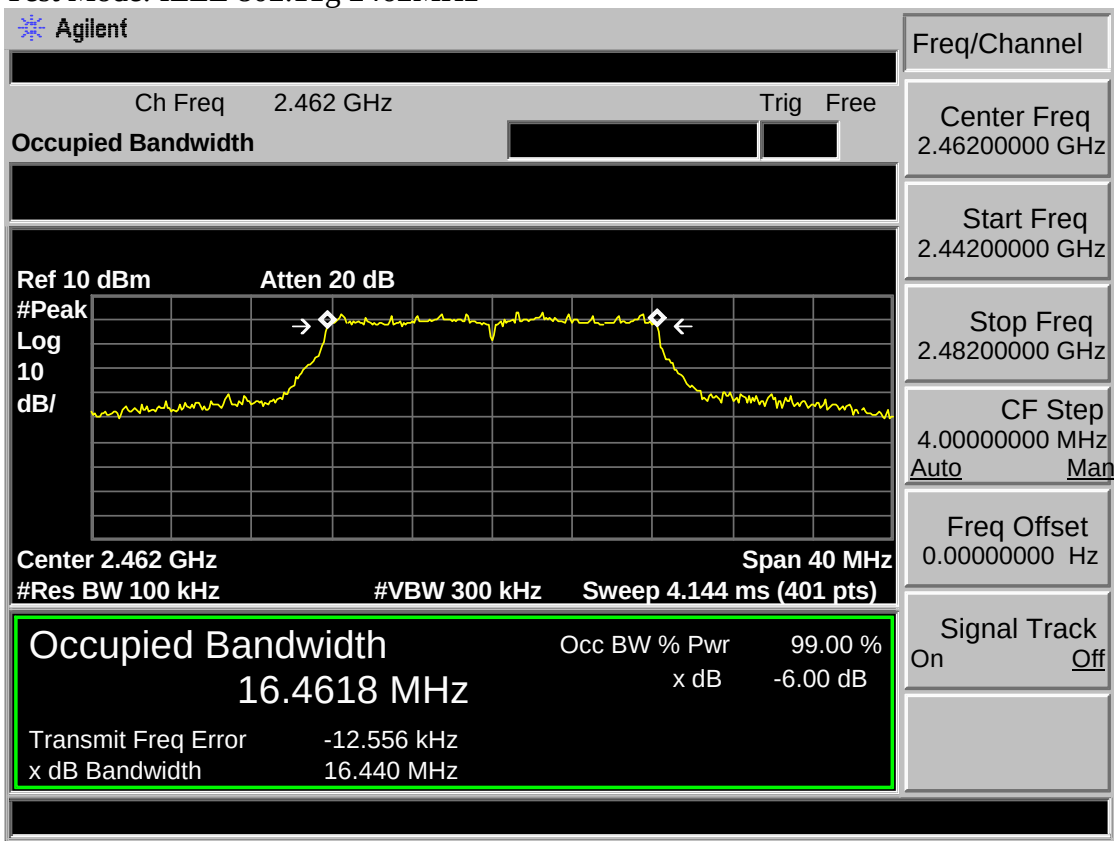
Test Mode: IEEE 802.11g 2412MHz



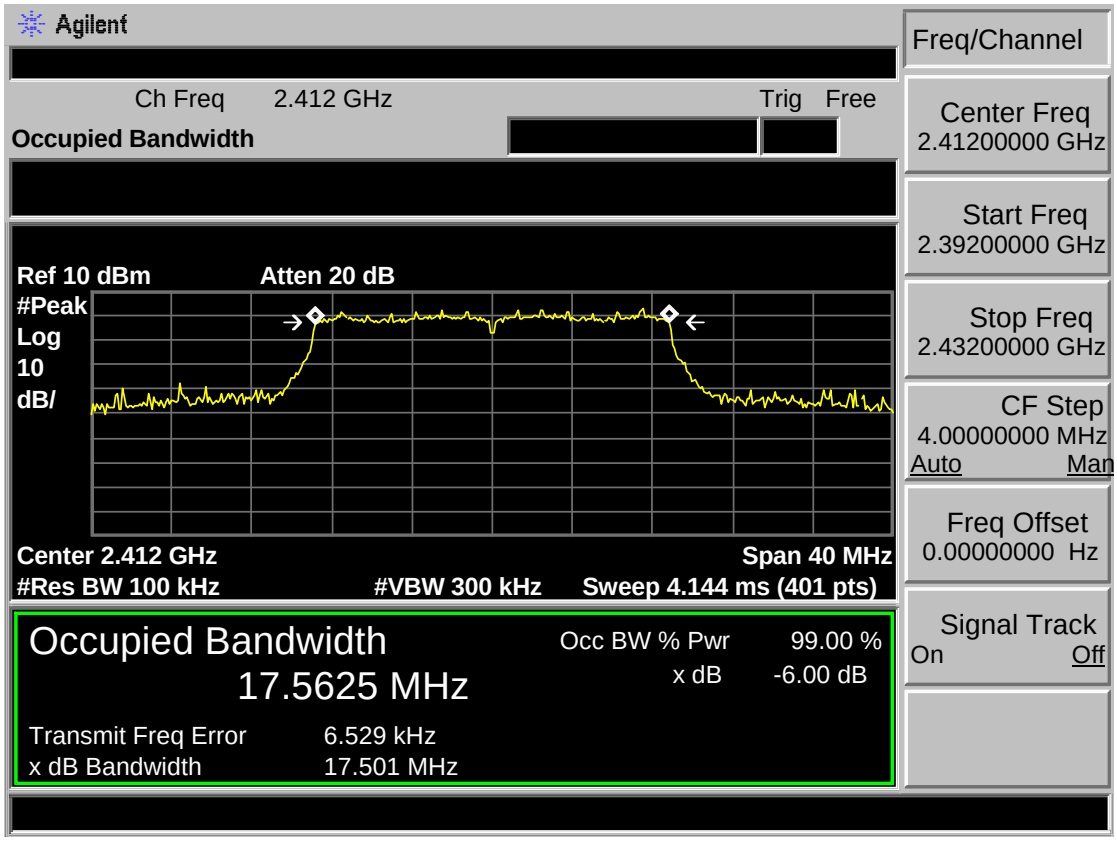

Test Mode: IEEE 802.11g 2437MHz



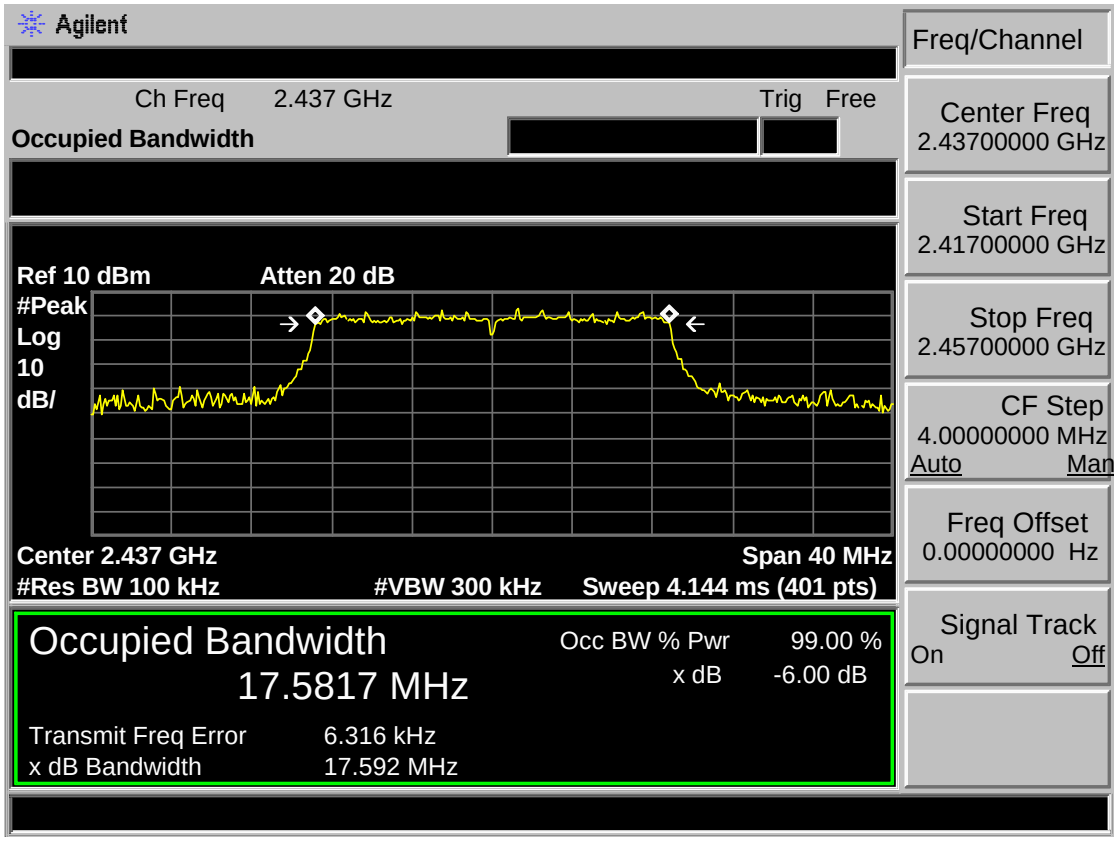
Test Mode: IEEE 802.11g 2462MHz



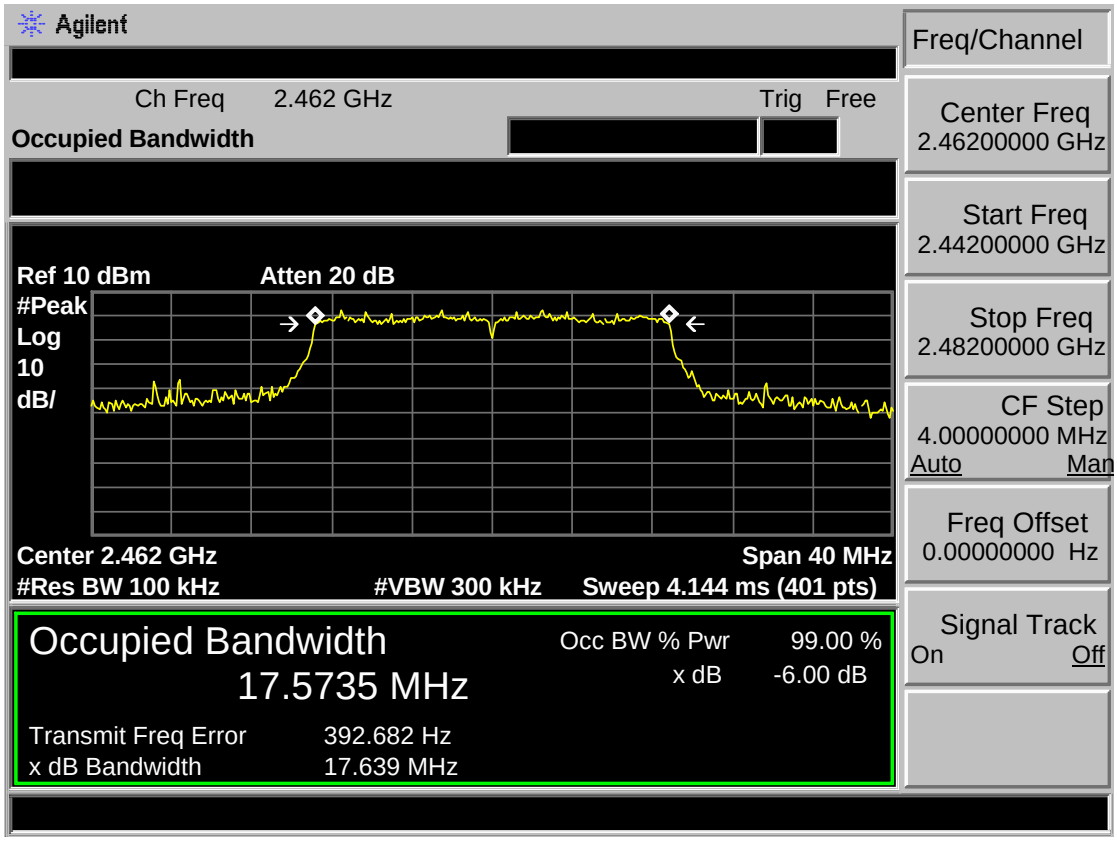
Test Mode: IEEE 802.11n HT20 2412MHz




Test Mode: IEEE 802.11n HT20 2437MHz



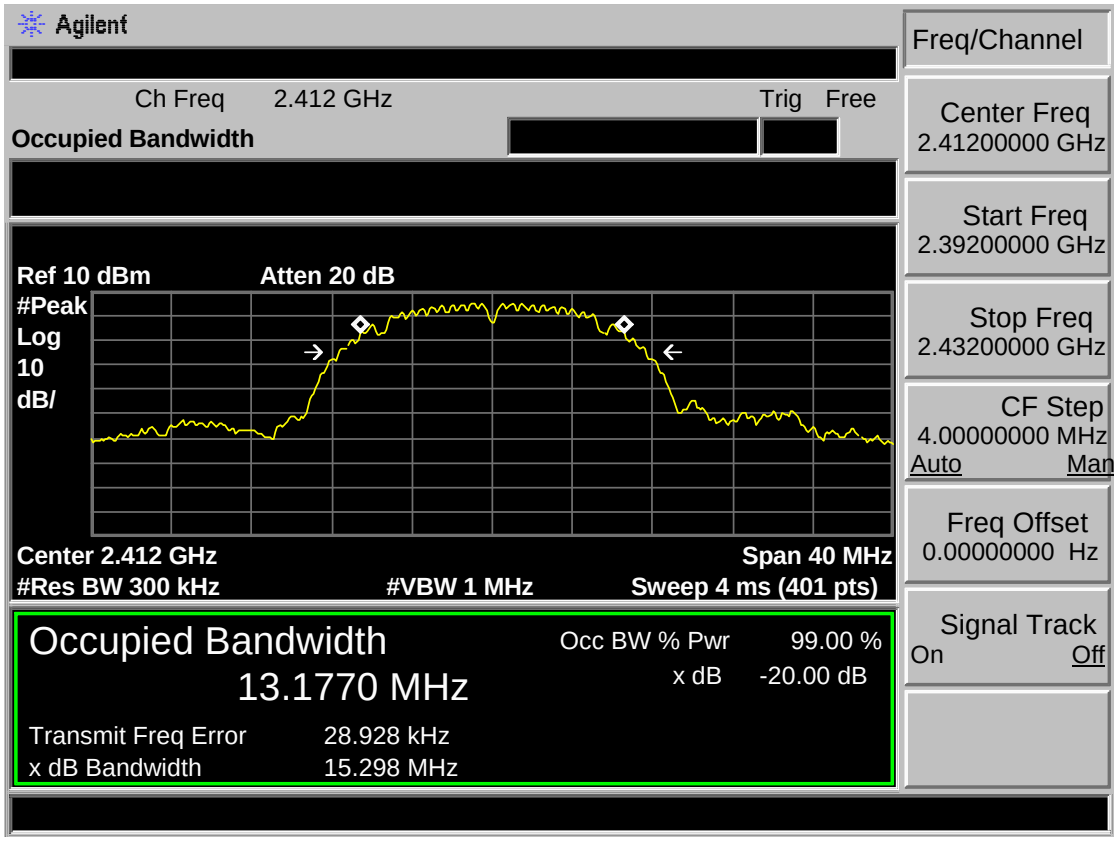
Test Mode: IEEE 802.11n HT20 2462MHz



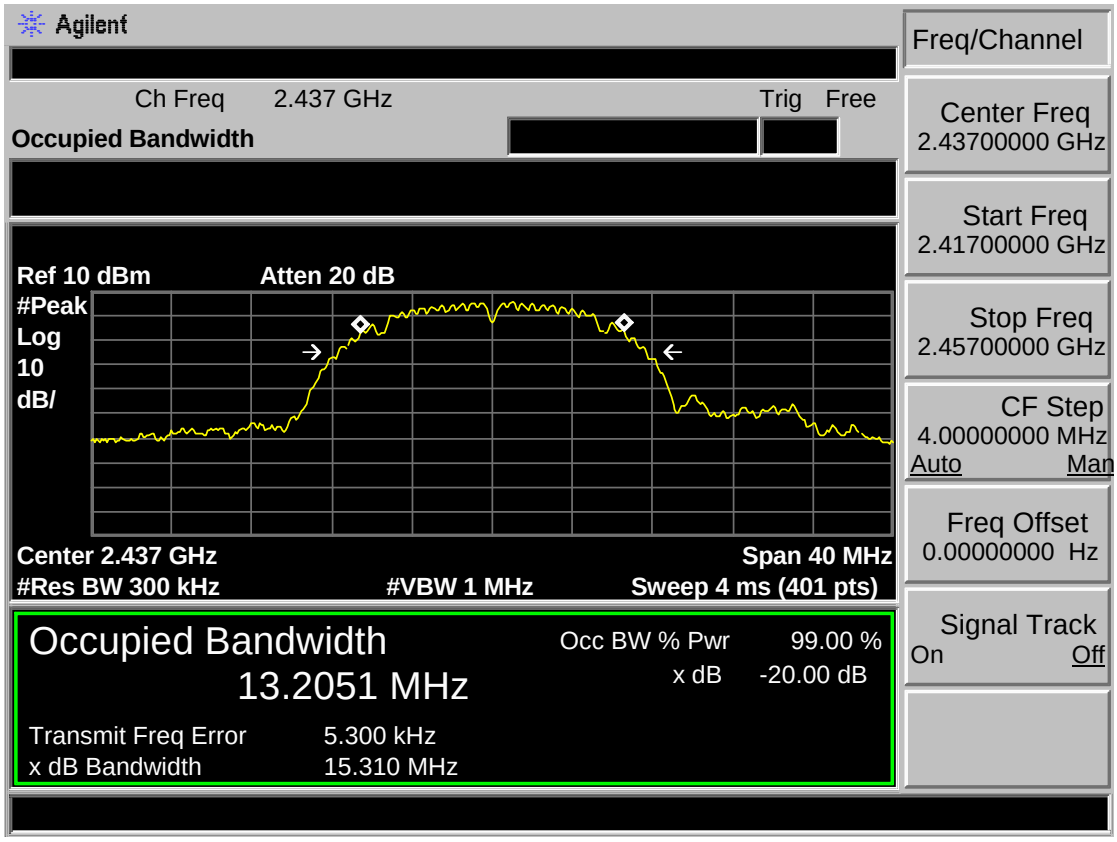
## 6.6 20dB Test Data

Antenna 1

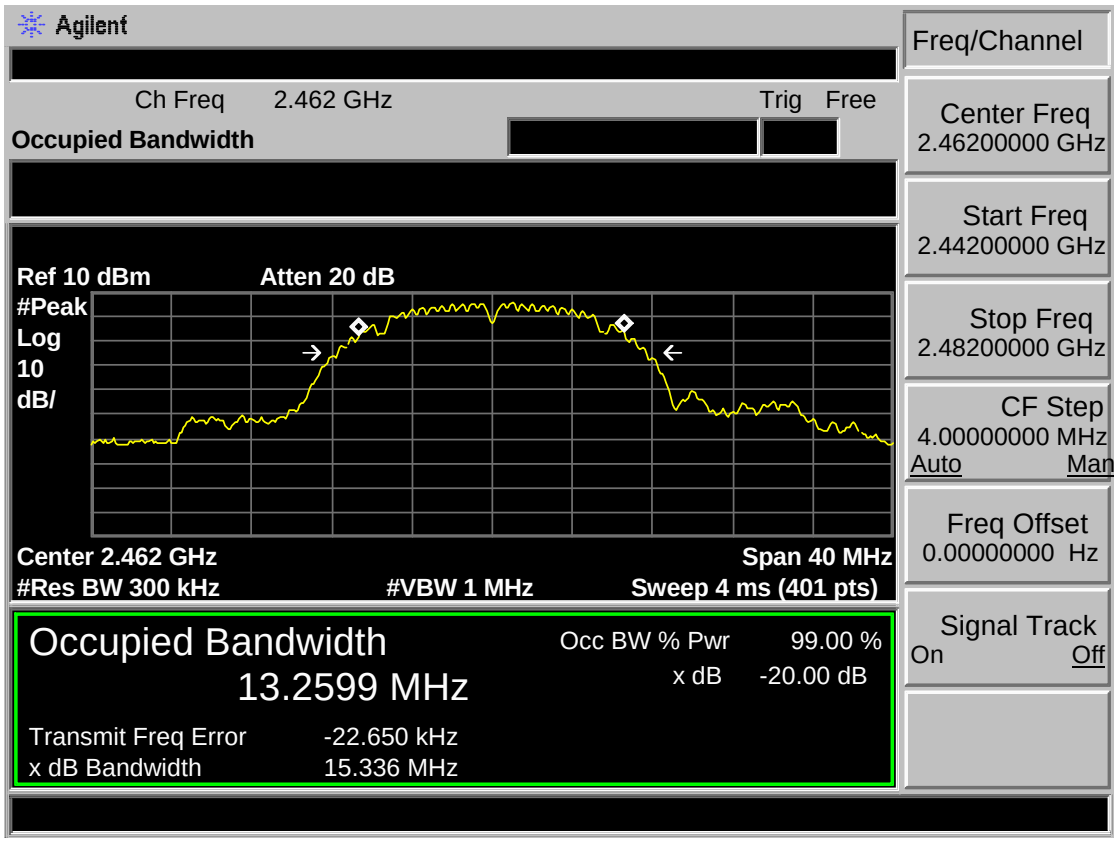
Test Mode: IEEE 802.11b 2412MHz



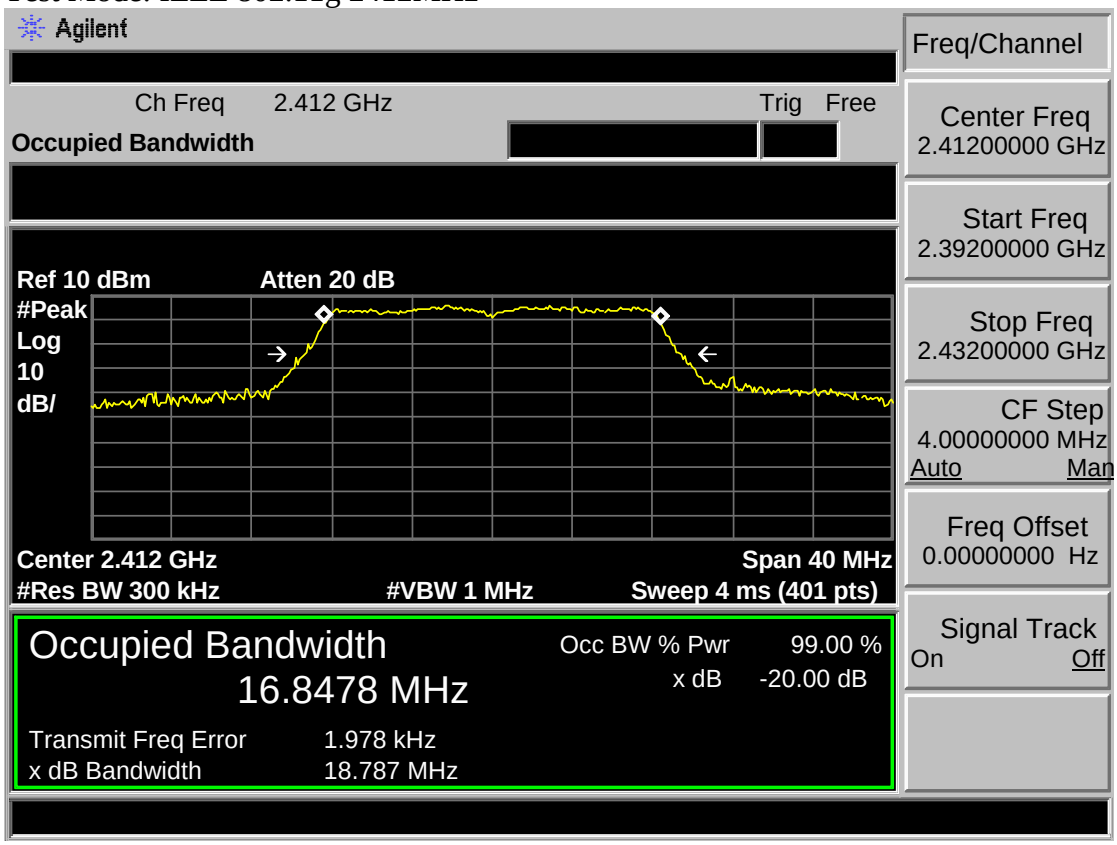

Test Mode: IEEE 802.11b 2437MHz



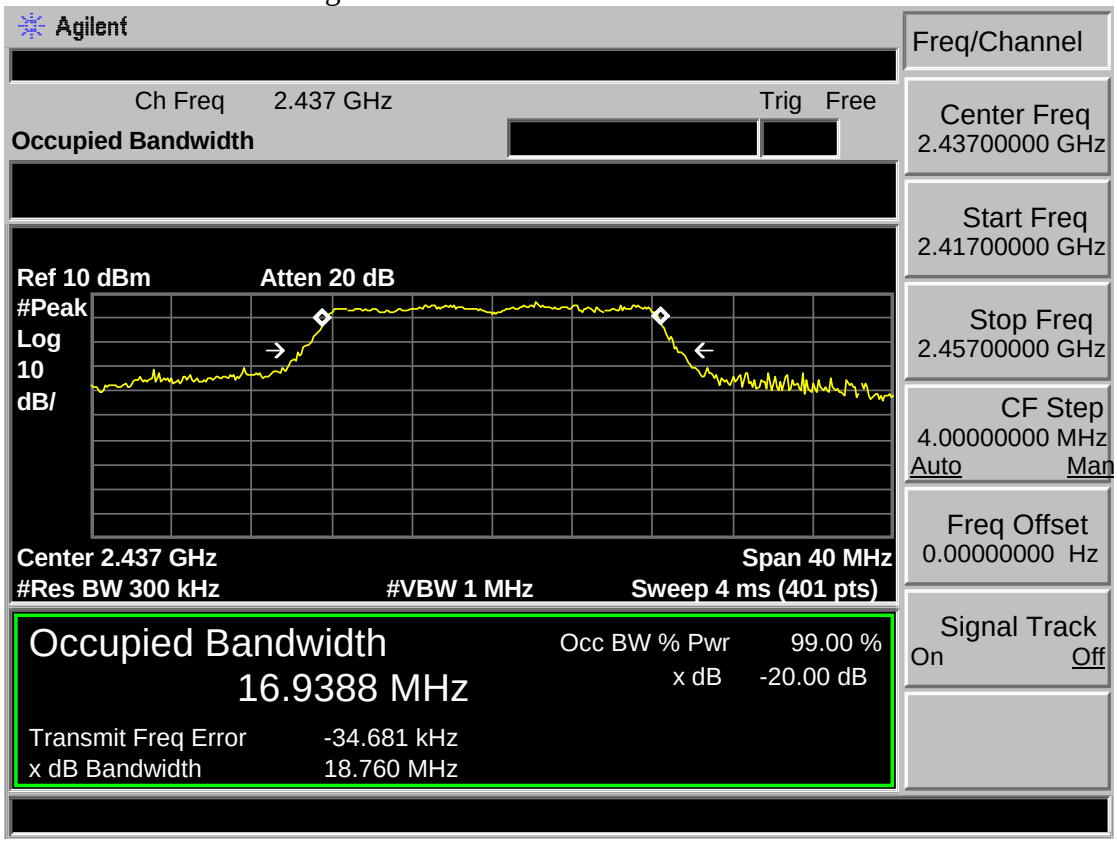
Test Mode: IEEE 802.11b 2462MHz



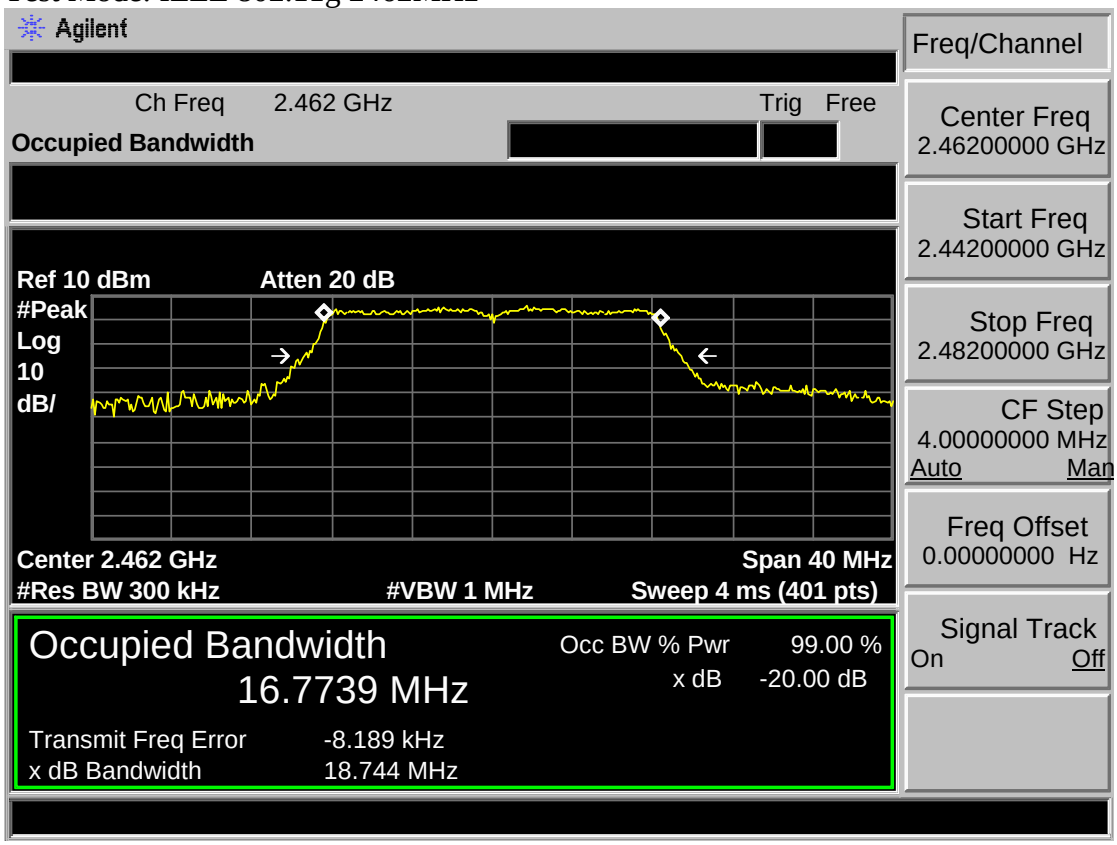
Test Mode: IEEE 802.11g 2412MHz



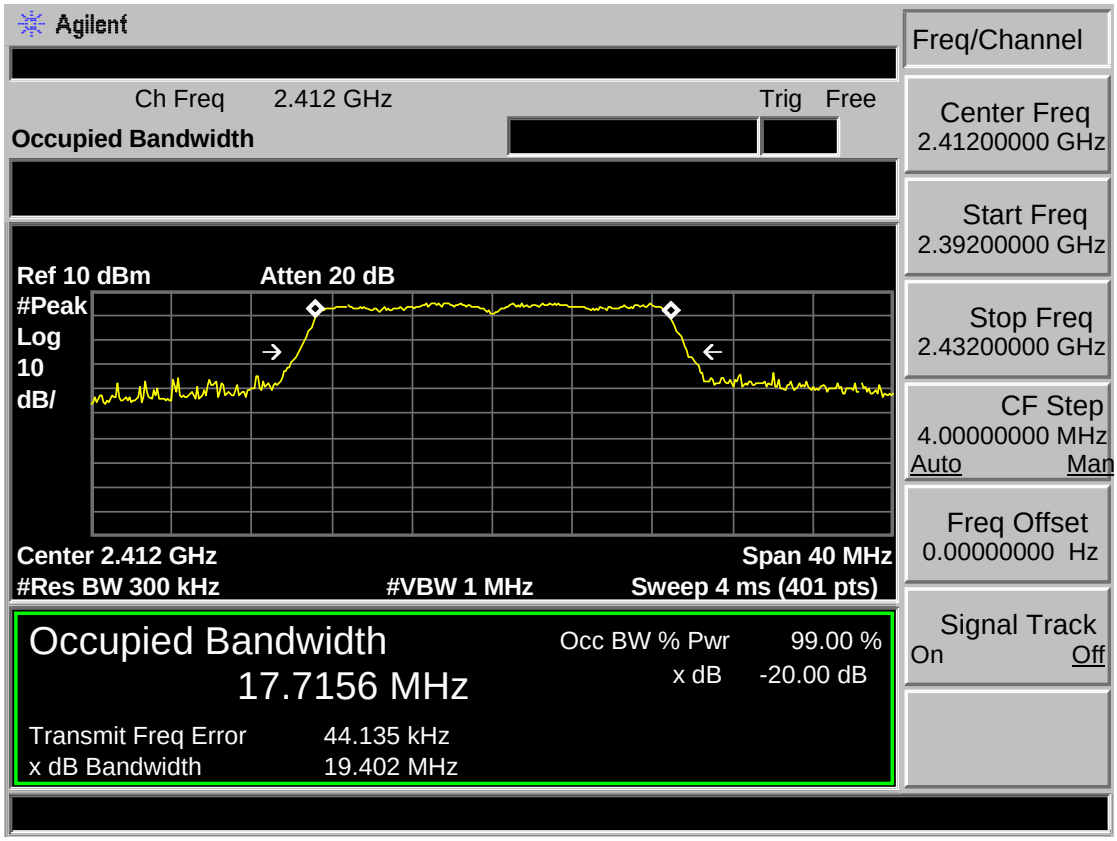

Test Mode: IEEE 802.11g 2437MHz



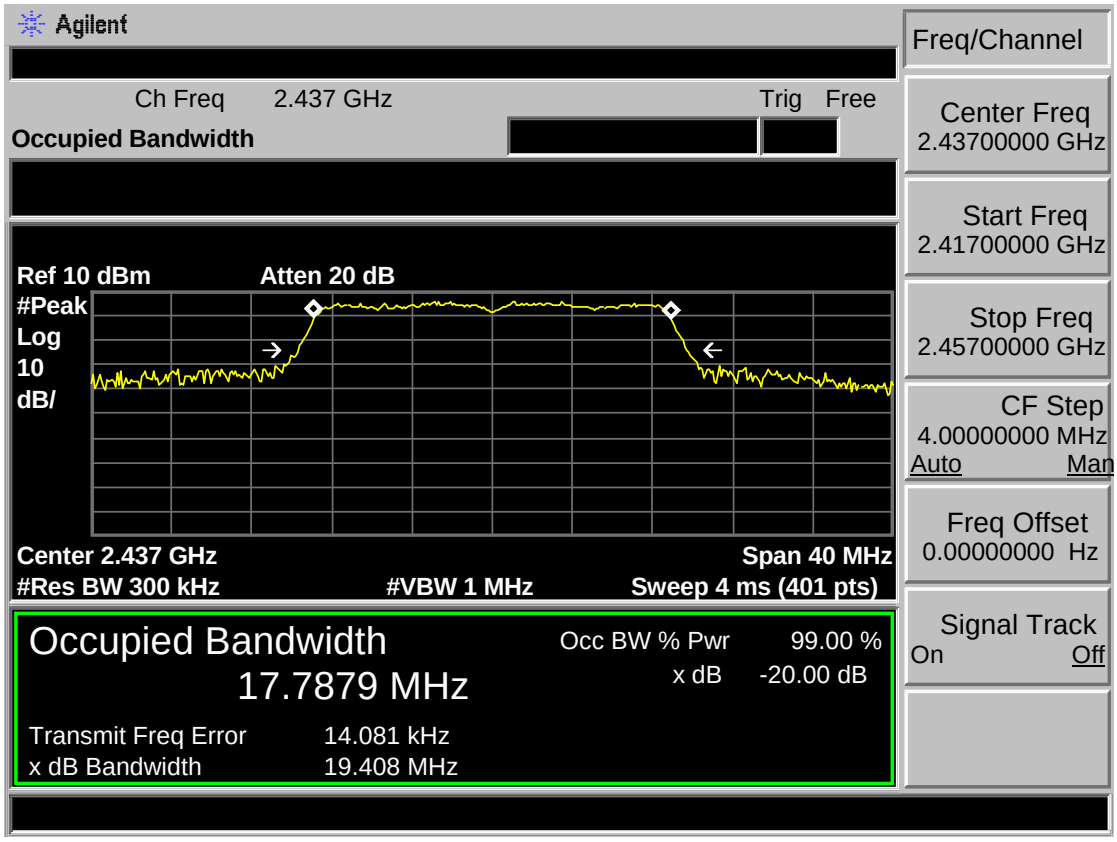
Test Mode: IEEE 802.11g 2462MHz



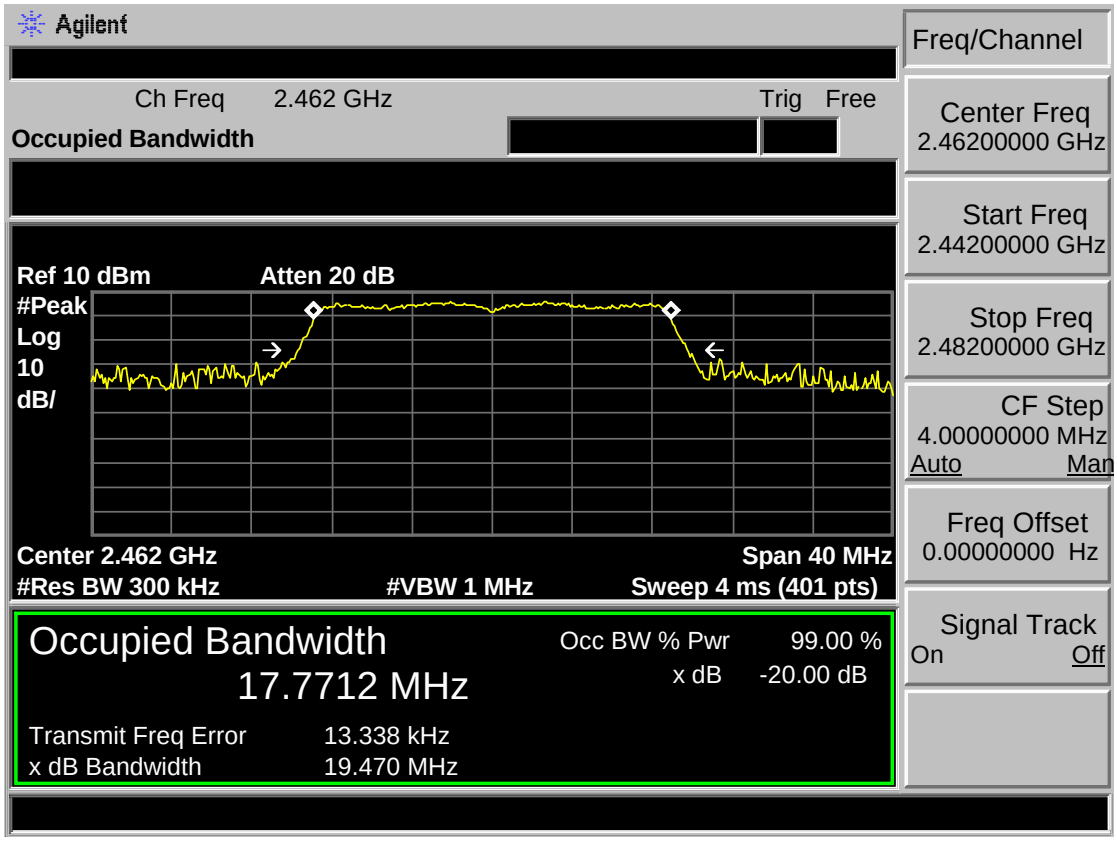
Test Mode: IEEE 802.11n HT20 2412MHz




Test Mode: IEEE 802.11n HT20 2437MHz

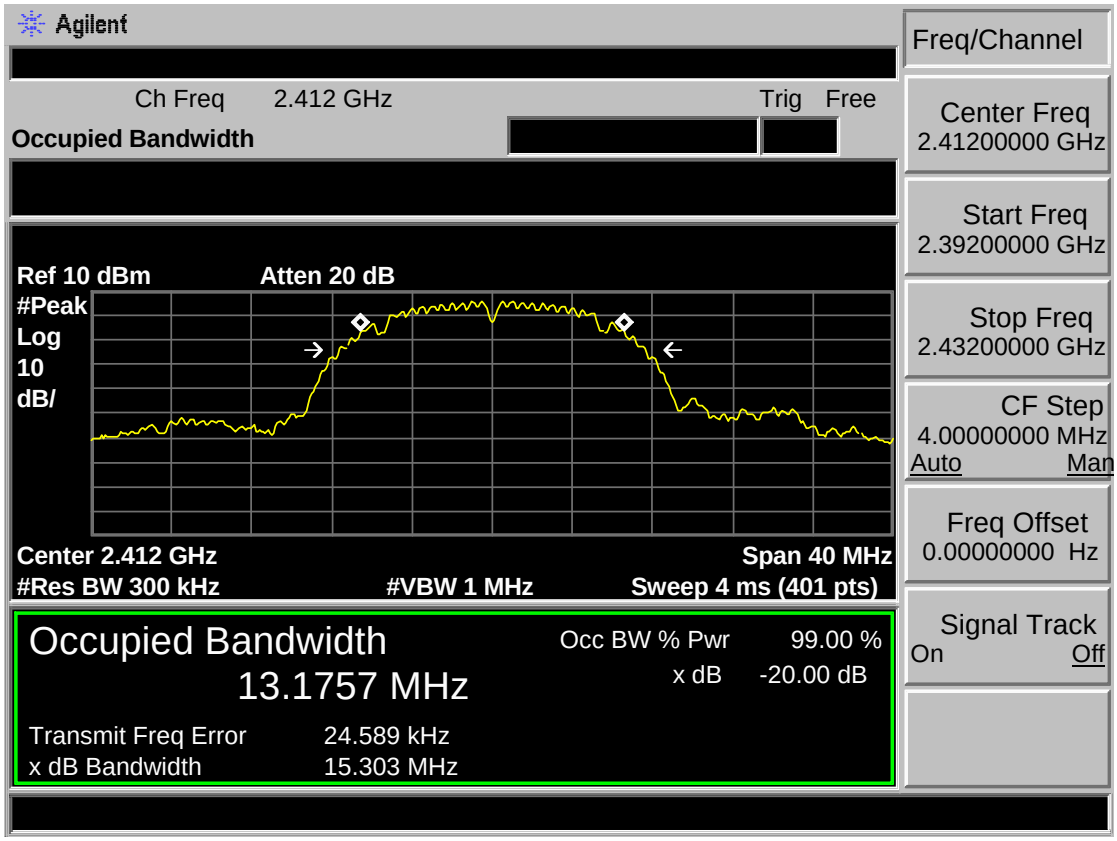


Test Mode: IEEE 802.11n HT20 2462MHz

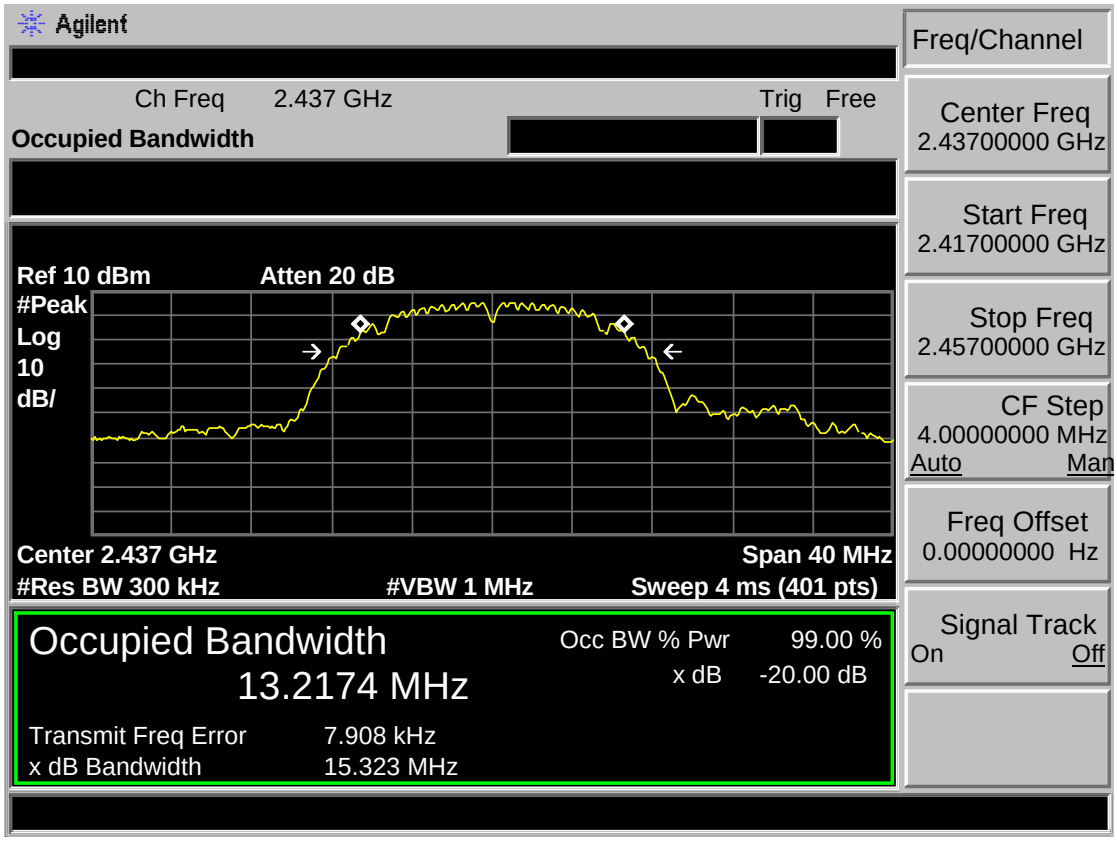


Antenna 2

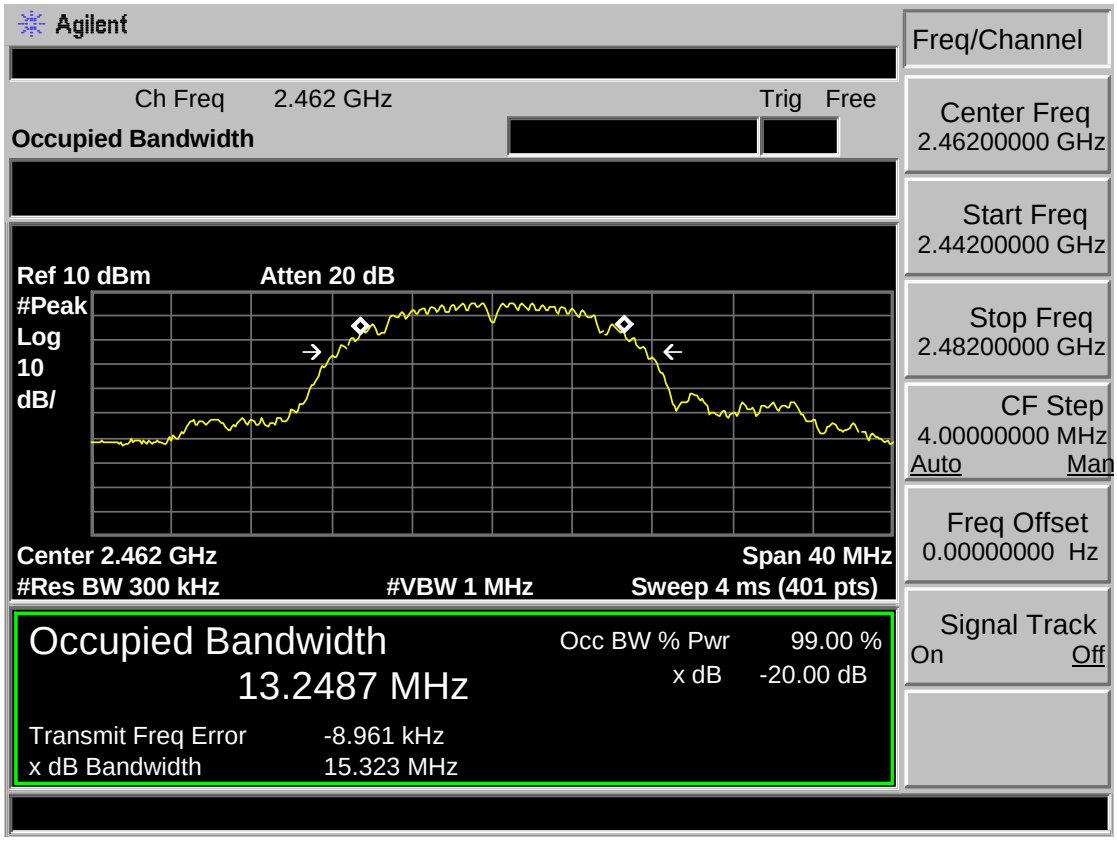
Test Mode: IEEE 802.11b 2412MHz



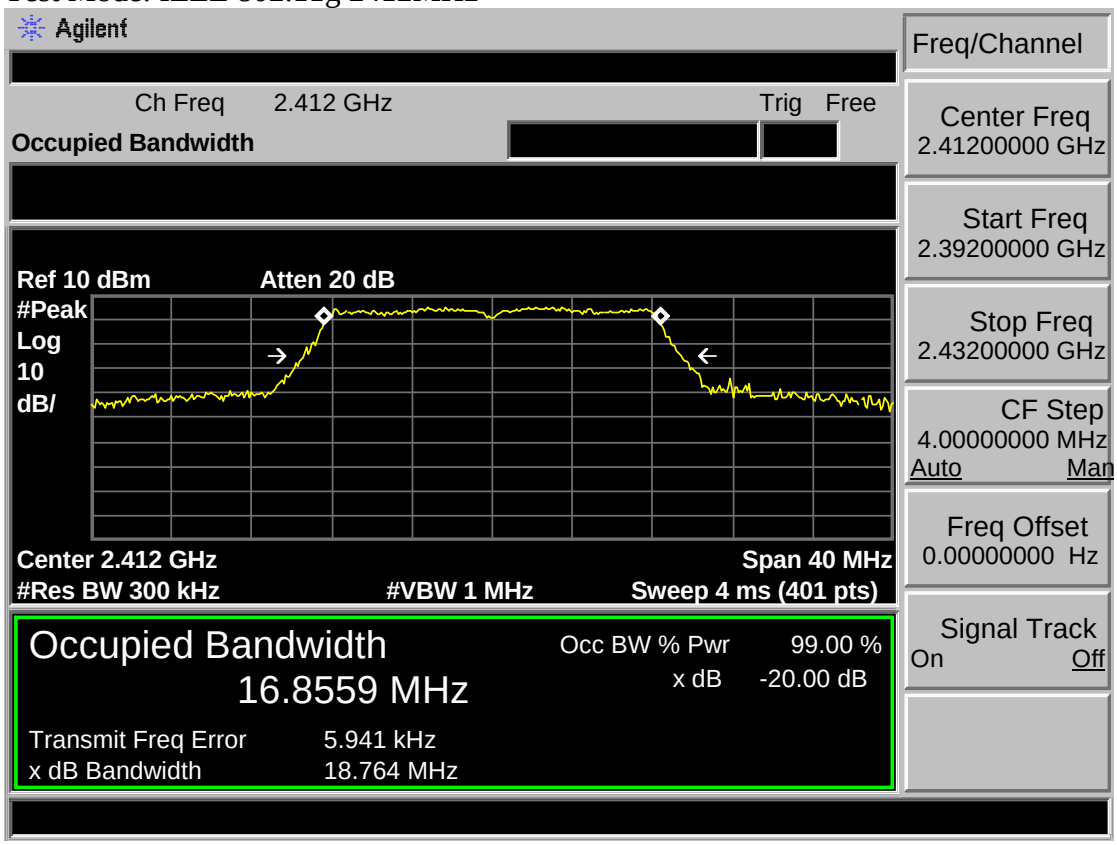

Test Mode: IEEE 802.11b 2437MHz



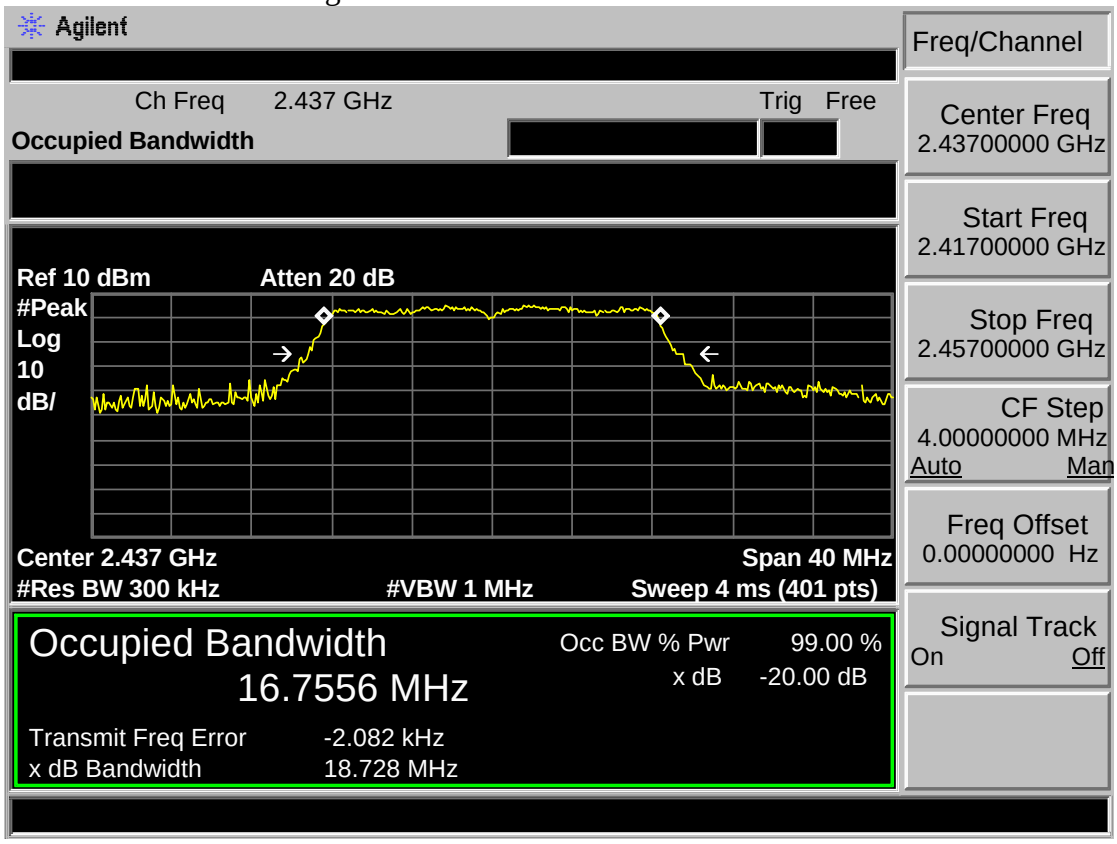
Test Mode: IEEE 802.11b 2462MHz



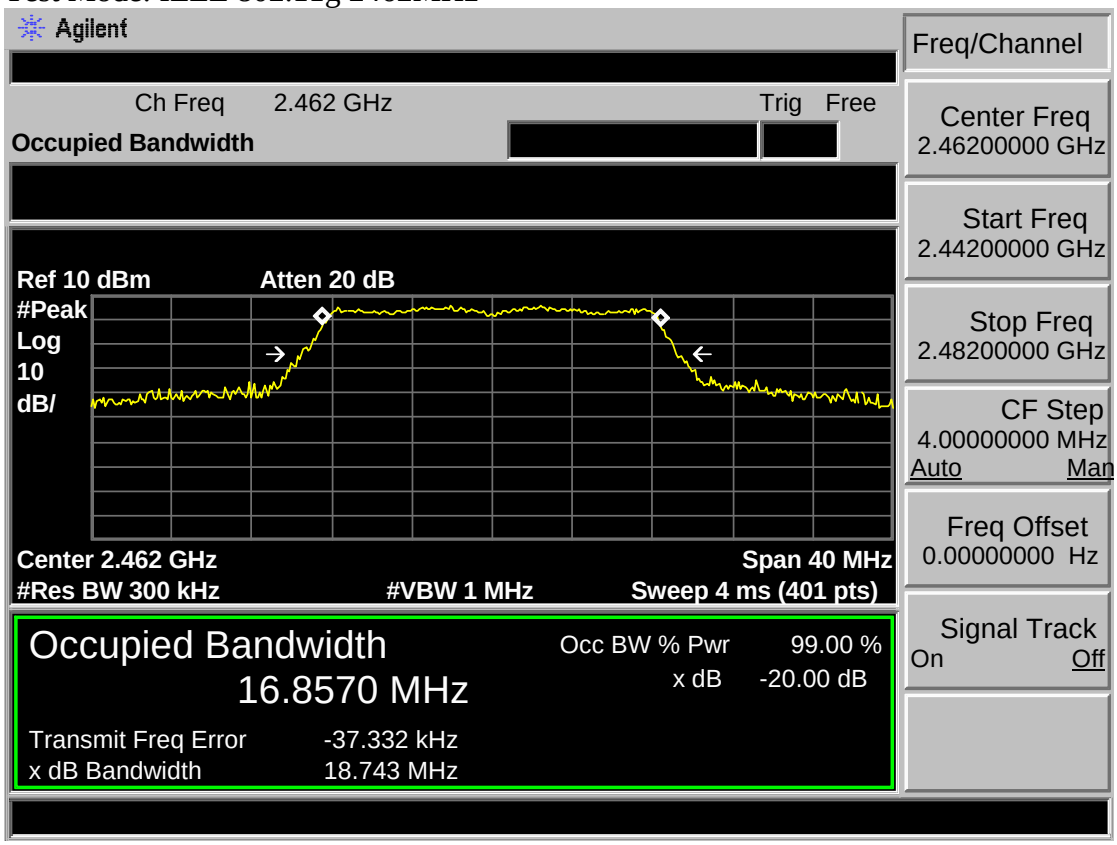
Test Mode: IEEE 802.11g 2412MHz



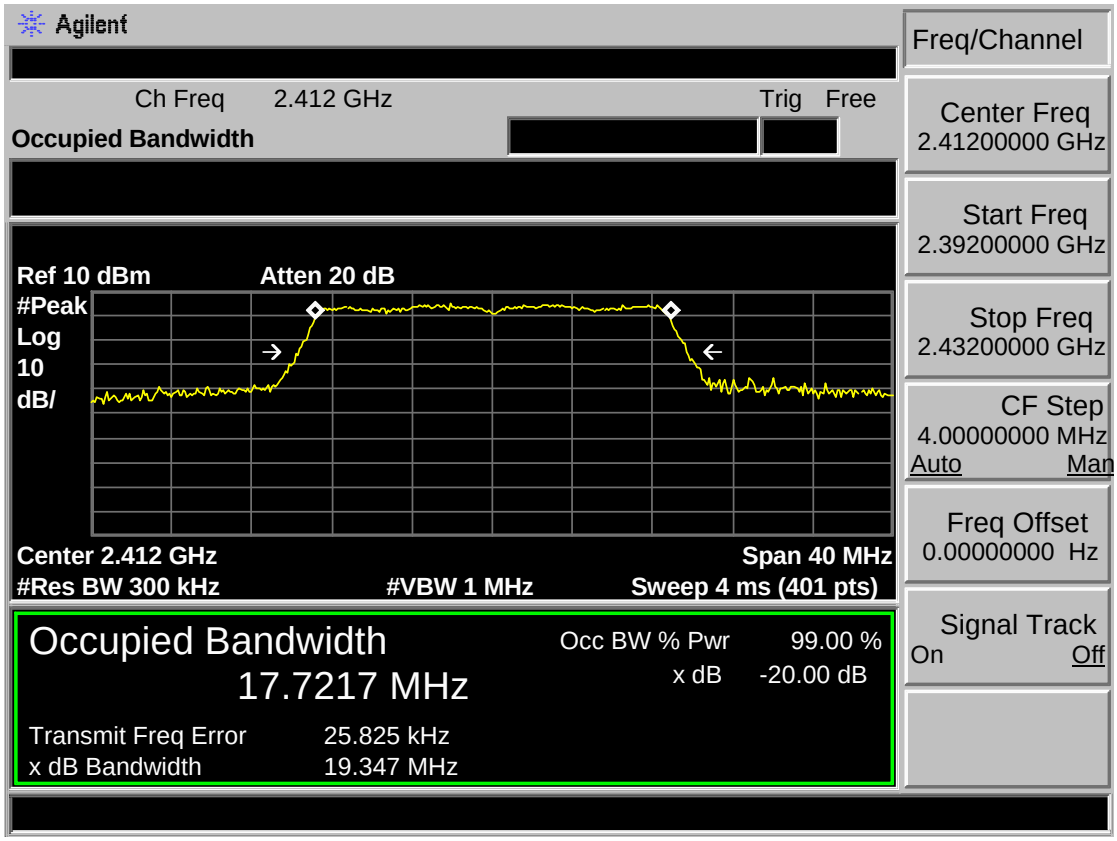

Test Mode: IEEE 802.11g 2437MHz



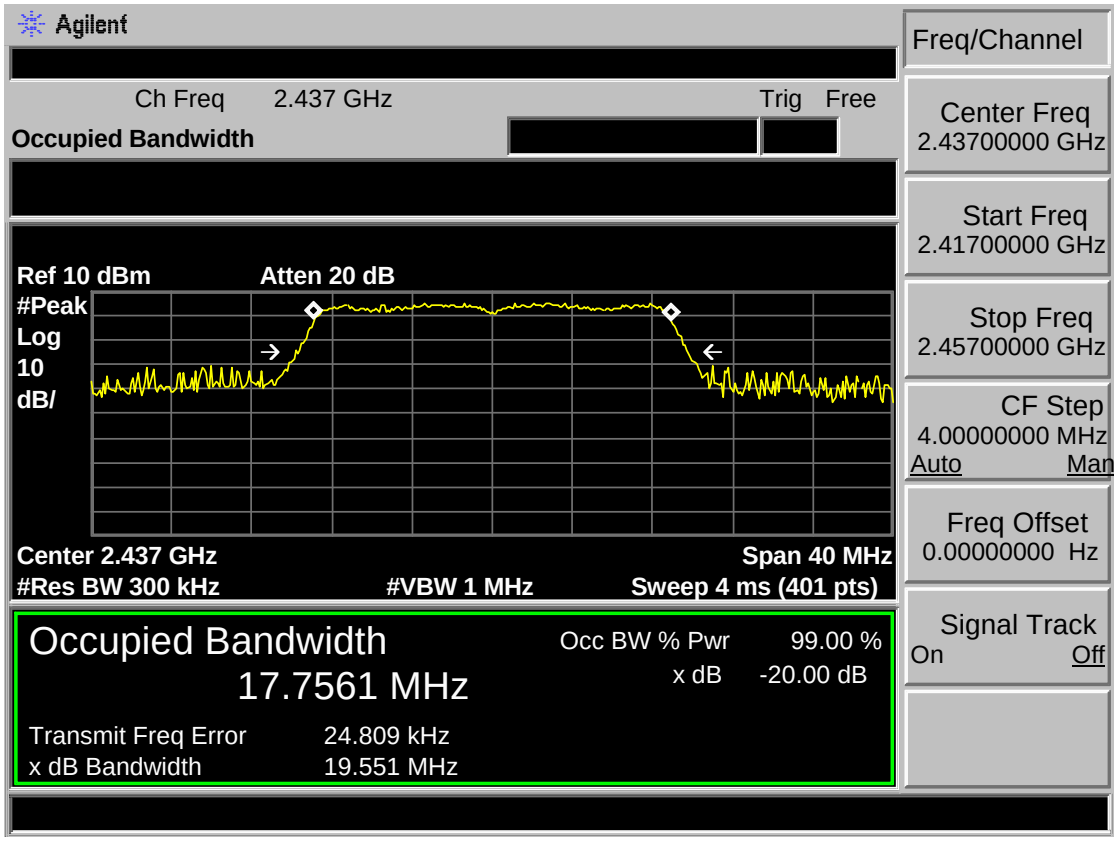
Test Mode: IEEE 802.11g 2462MHz



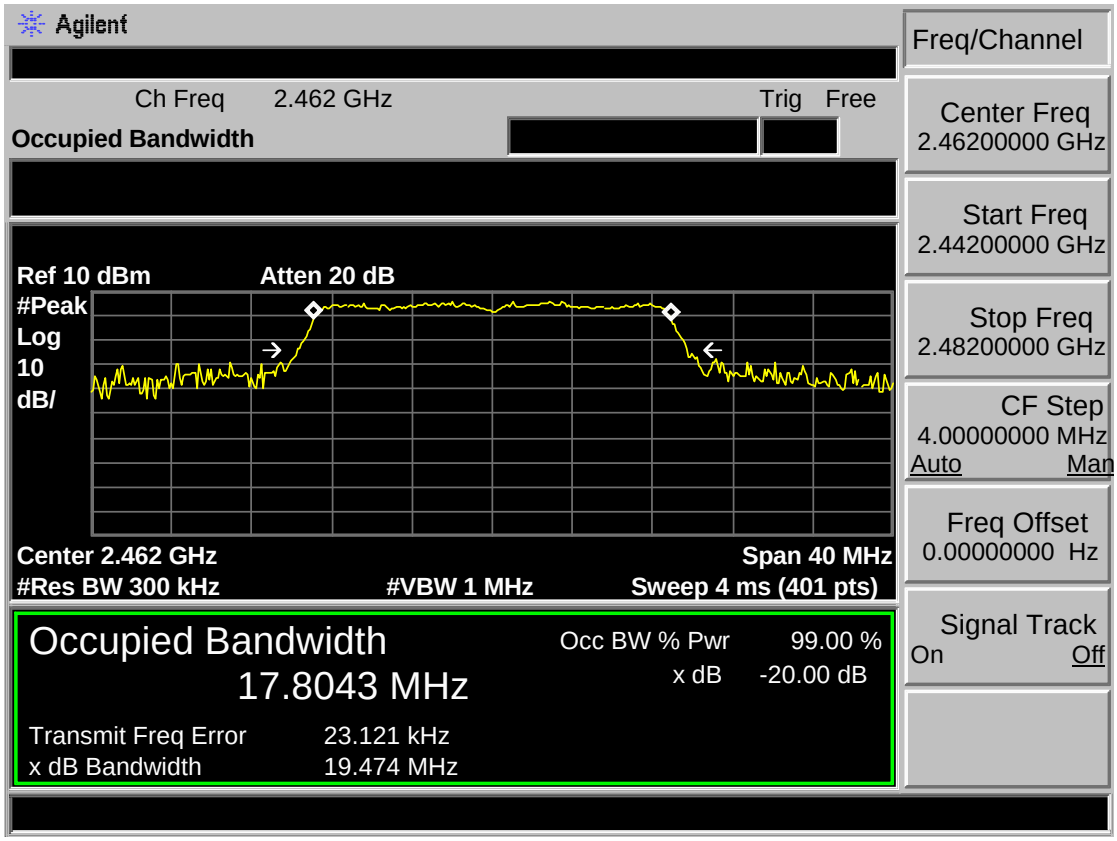
Test Mode: IEEE 802.11n HT20 2412MHz




Test Mode: IEEE 802.11n HT20 2437MHz



Test Mode: IEEE 802.11n HT20 2462MHz



# 7 OUTPUT POWER TEST

## 7.1 Limit

For systems using digital modulation in the 2400—2483.5MHz, The Peak out put Power shall not exceed 1W(30dBm)

## 7.2 Test Procedure

1, The transmitter output (antenna port) was connected to the spectrum analyzer. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable.

2, Follow the test procedure as described in KDB 558074

(1)Set span to at least 1.5 times the OBW.

(2)Set RBW = 1-5% of the OBW, not to exceed 1 MHz.

(3)Set VBW ≥ 3 x RBW.

(4)Number of points in sweep ≥ 2 × span / RBW. (This gives bin-to-bin spacing ≤ RBW/2, so that narrowband signals are not lost between frequency bins.)

(4)Sweep time = auto.

(5)Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.

(6)If transmit duty cycle < 98 %, use a sweep trigger with the level set to enable triggering only on full power pulses. The transmitter shall operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle ≥ 98 %, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to “free run”.

(7)Trace average at least 100 traces in power averaging (i.e., RMS) mode.

(8)Compute power by integrating the spectrum across the OBW of the signal using the instrument’s band power measurement function, with band limits set equal to the OBW band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

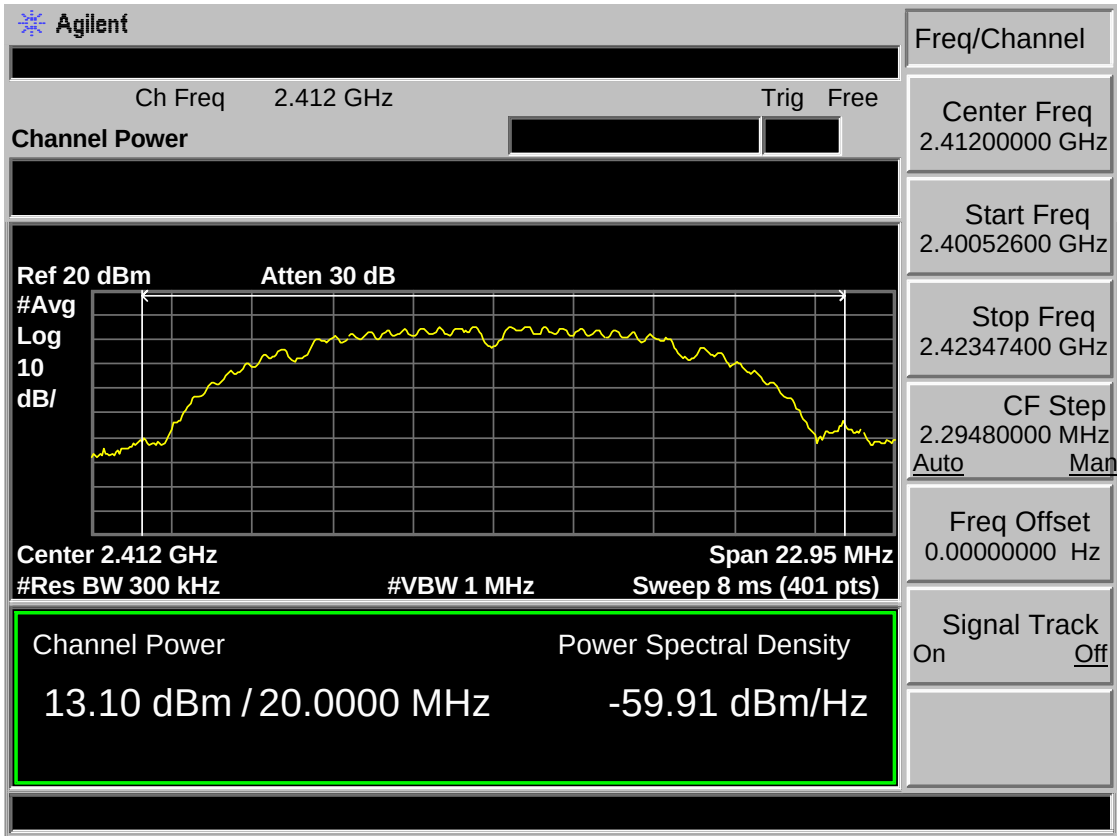
## 7.3 Test Result

| EUT: Big Blue 100 | | | | |
|---|---|---|---|---|
| M/N: AD107A4BKA | | | | |
| Test date: 2017-01-20 | | Test site: 3m Chamber | | Tested by: Tony Tang |
| Pass | | | | |
| Test Mode | CH | Conducted Power （dBm） | | Limit (dBm) |
| | | ANT 1 | ANT 2 | |
| IEEE 802.11 b | CH1 | 13.10 | 13.37 | 30 |
| | CH6 | 13.70 | 13.71 | 30 |
| | CH11 | 13.57 | 13.34 | 30 |
| IEEE 802.11 g | CH1 | 10.57 | 10.85 | 30 |
| | CH6 | 10.13 | 10.44 | 30 |
| | CH11 | 10.36 | 10.73 | 30 |
| IEEE 802.11 n HT 20 | CH1 | 9.11 | 9.21 | 30 |
| | CH6 | 9.68 | 9.62 | 30 |
| | CH11 | 9.29 | 9.14 | 30 |
| Conclusion：PASS | | | | |

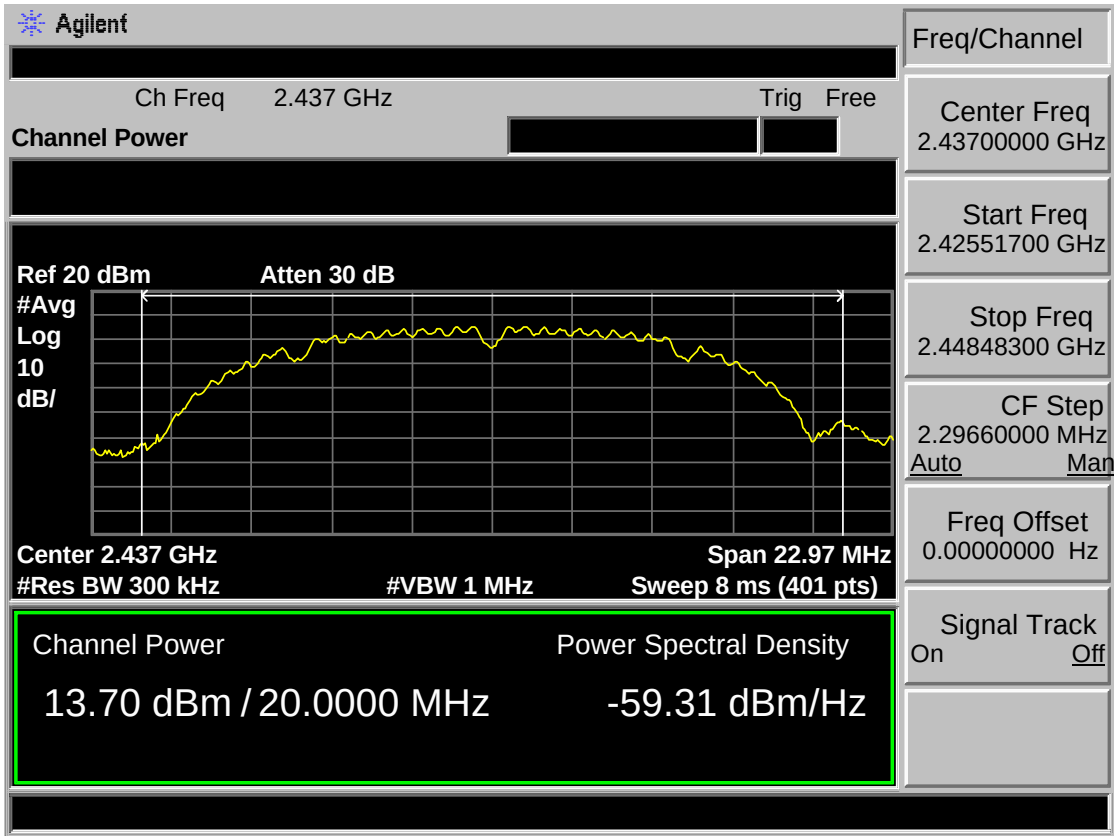
## 7.4 Test Data

Antenna 1

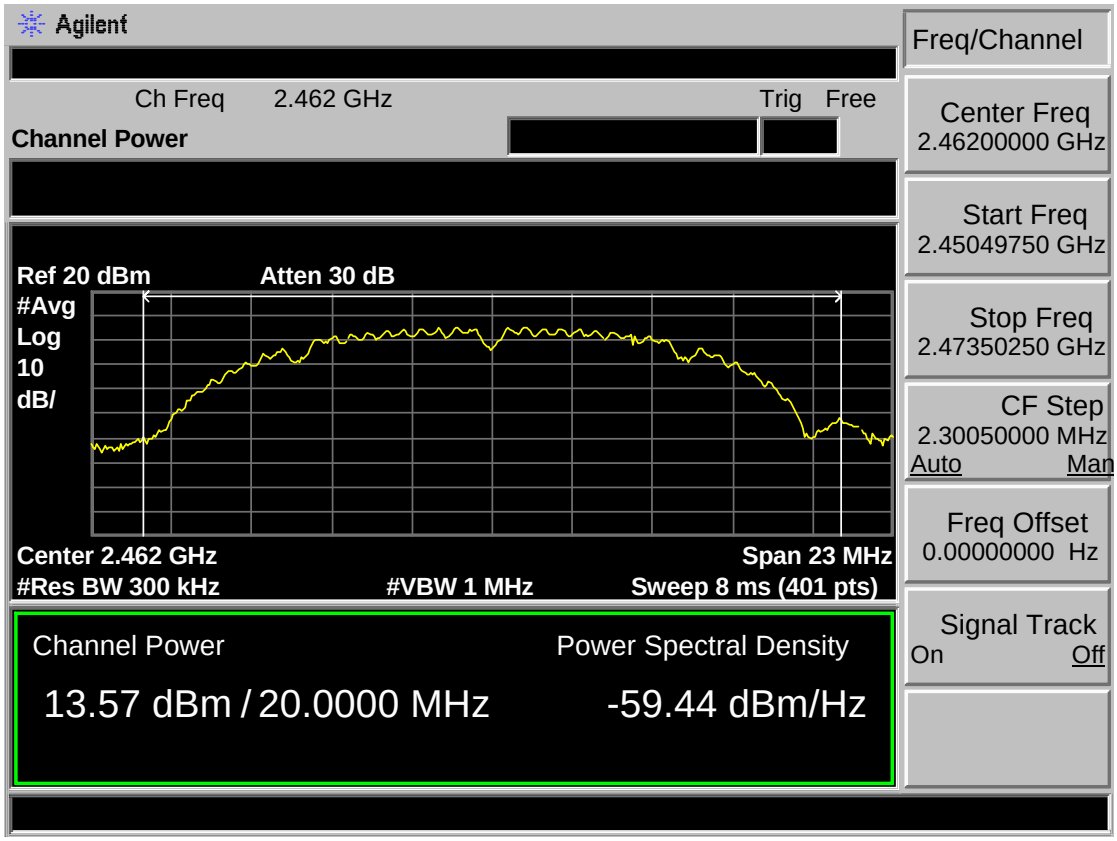
Test Mode: IEEE 802.11b 2412MHz



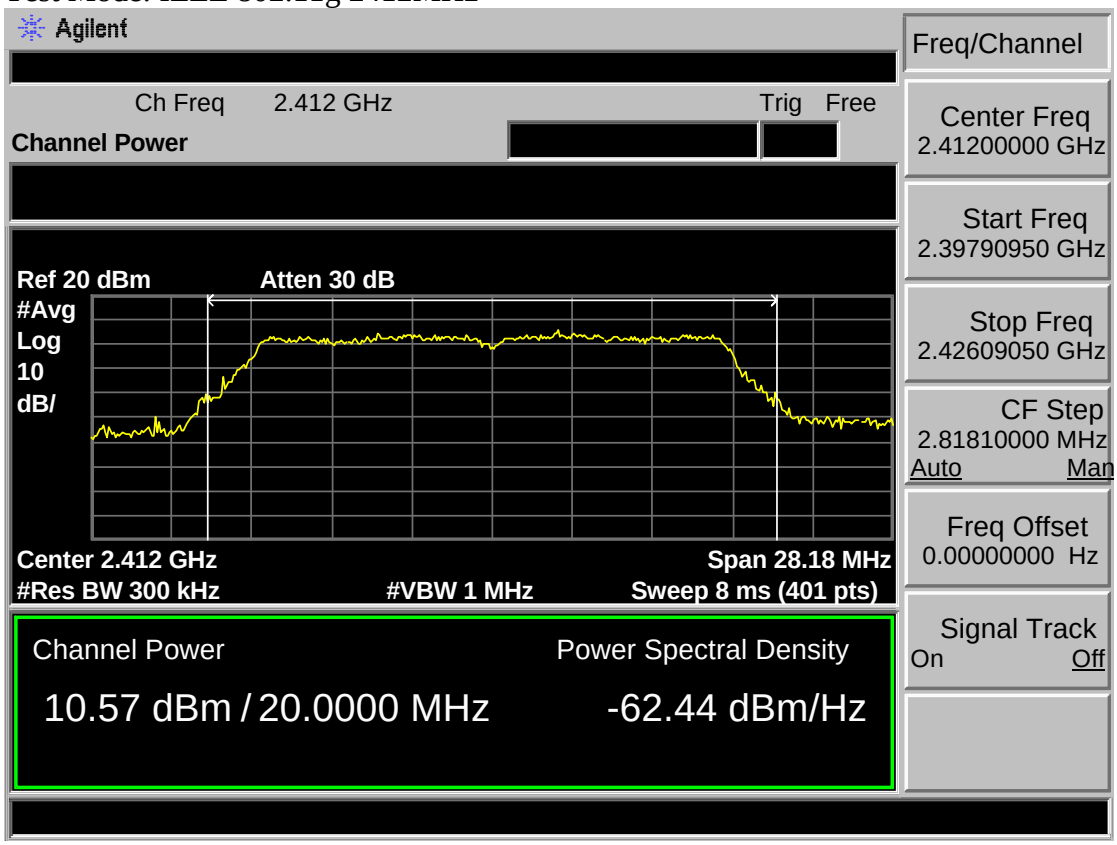

Test Mode: IEEE 802.11b 2437MHz



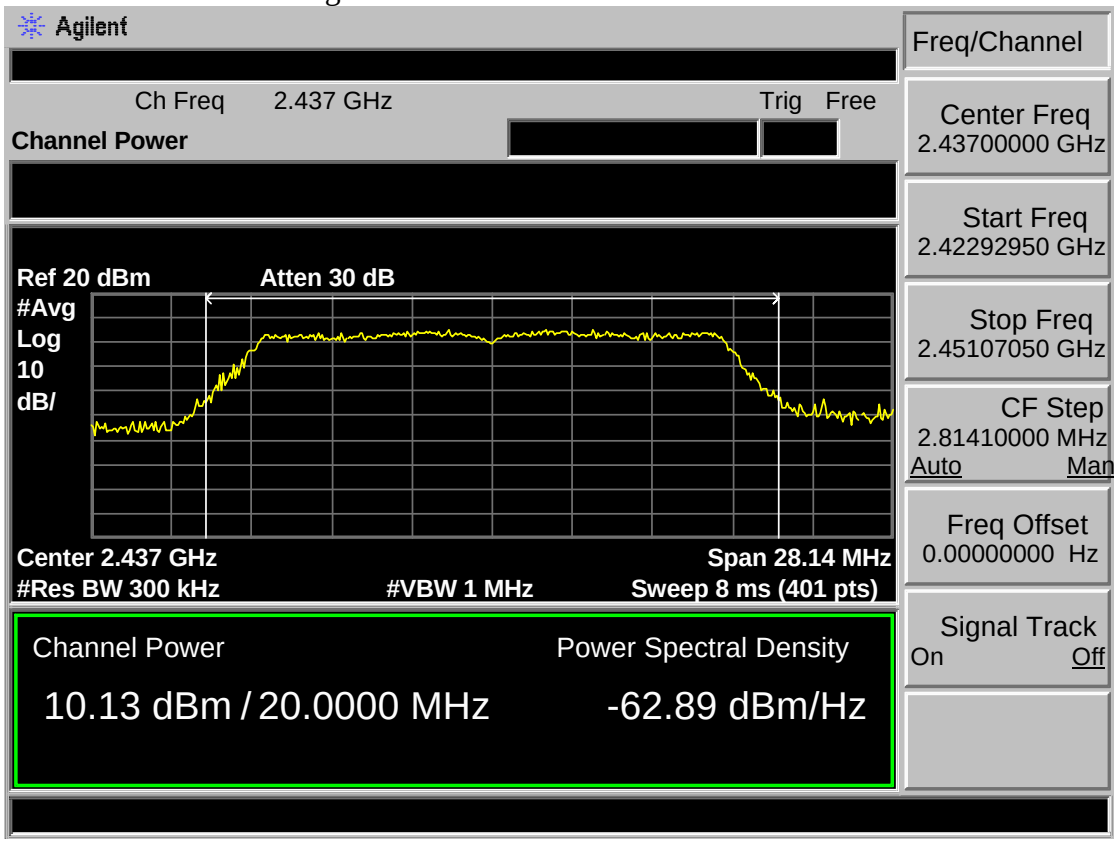
Test Mode: IEEE 802.11b 2462MHz



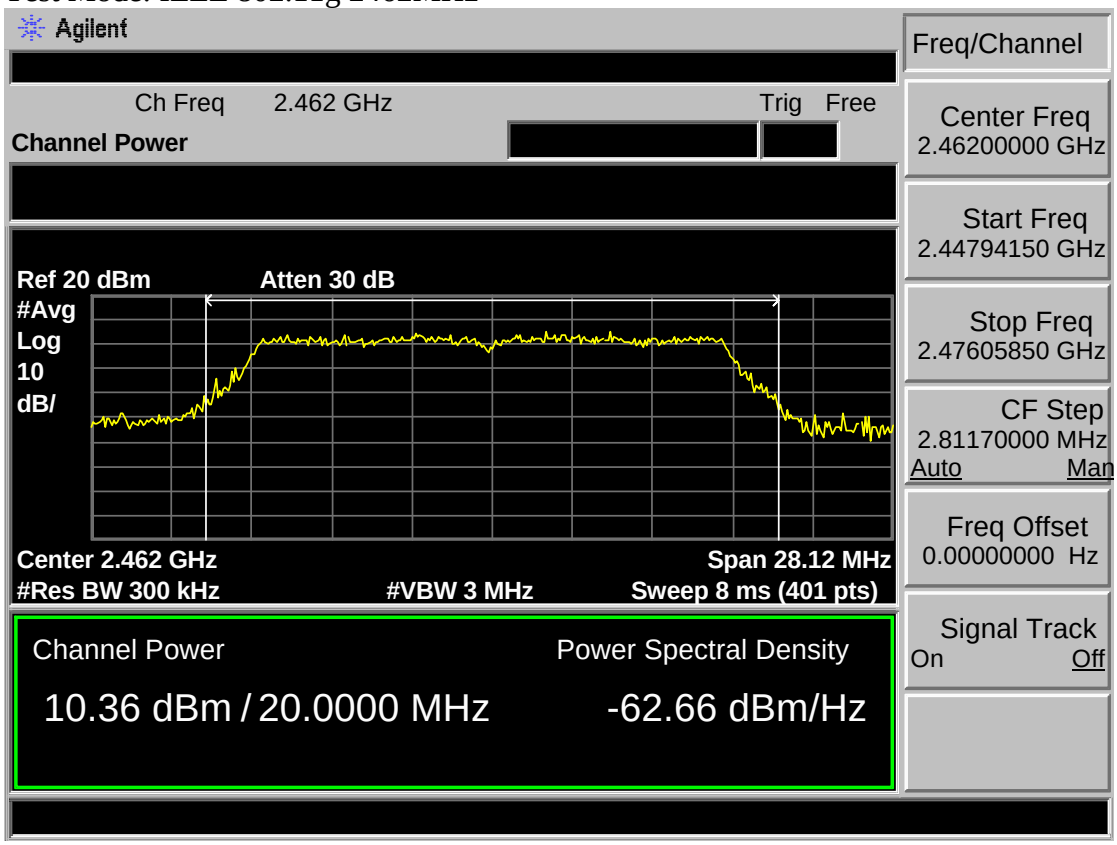
Test Mode: IEEE 802.11g 2412MHz



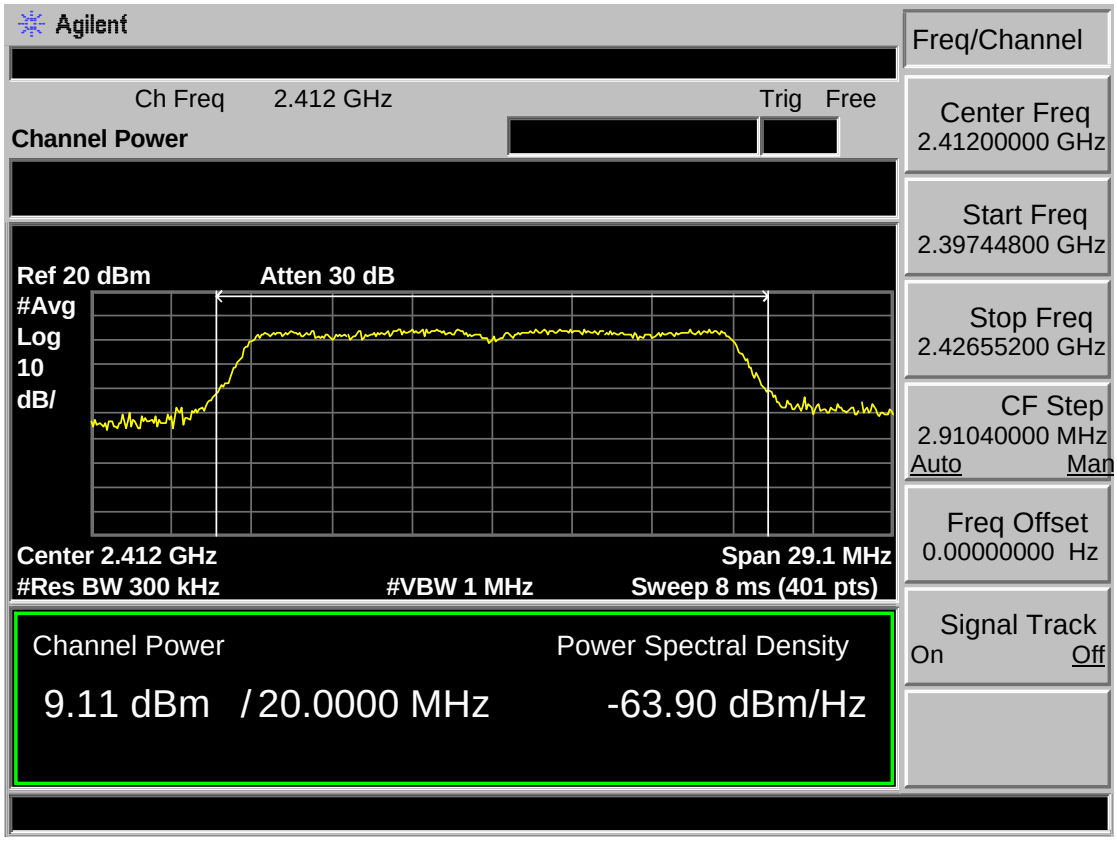

Test Mode: IEEE 802.11g 2437MHz



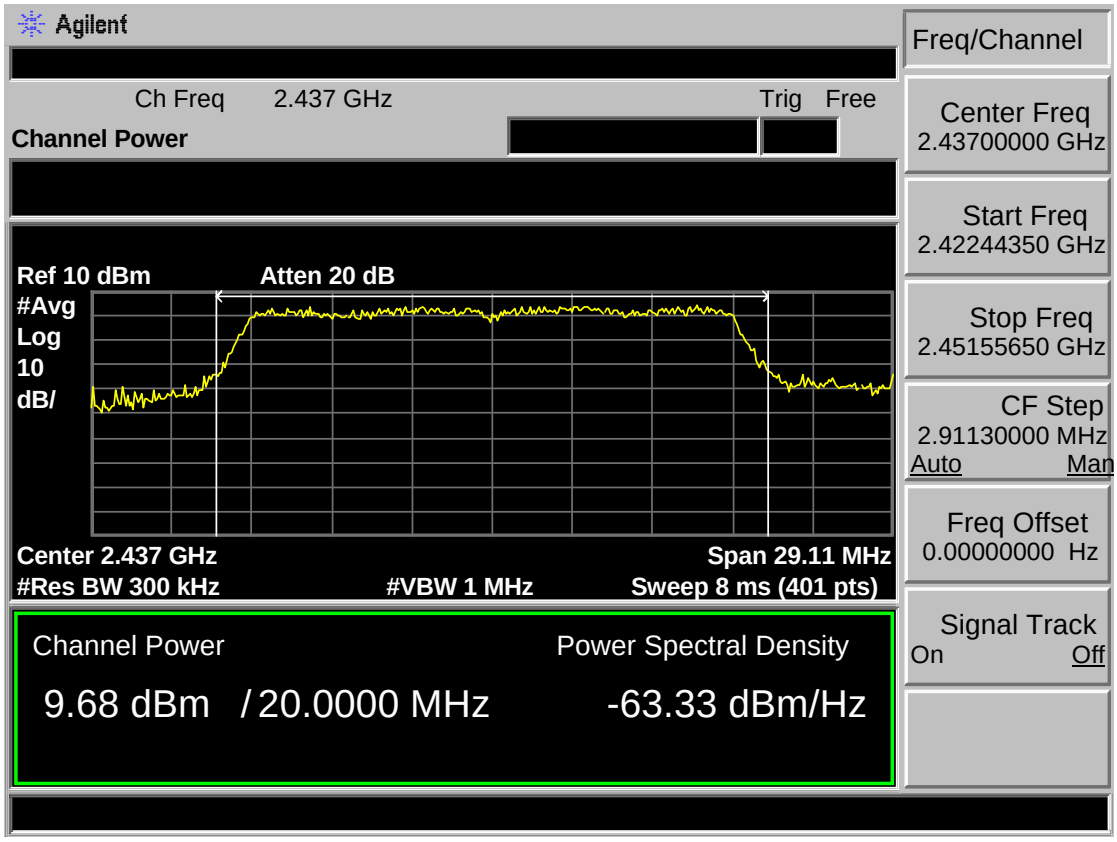
Test Mode: IEEE 802.11g 2462MHz



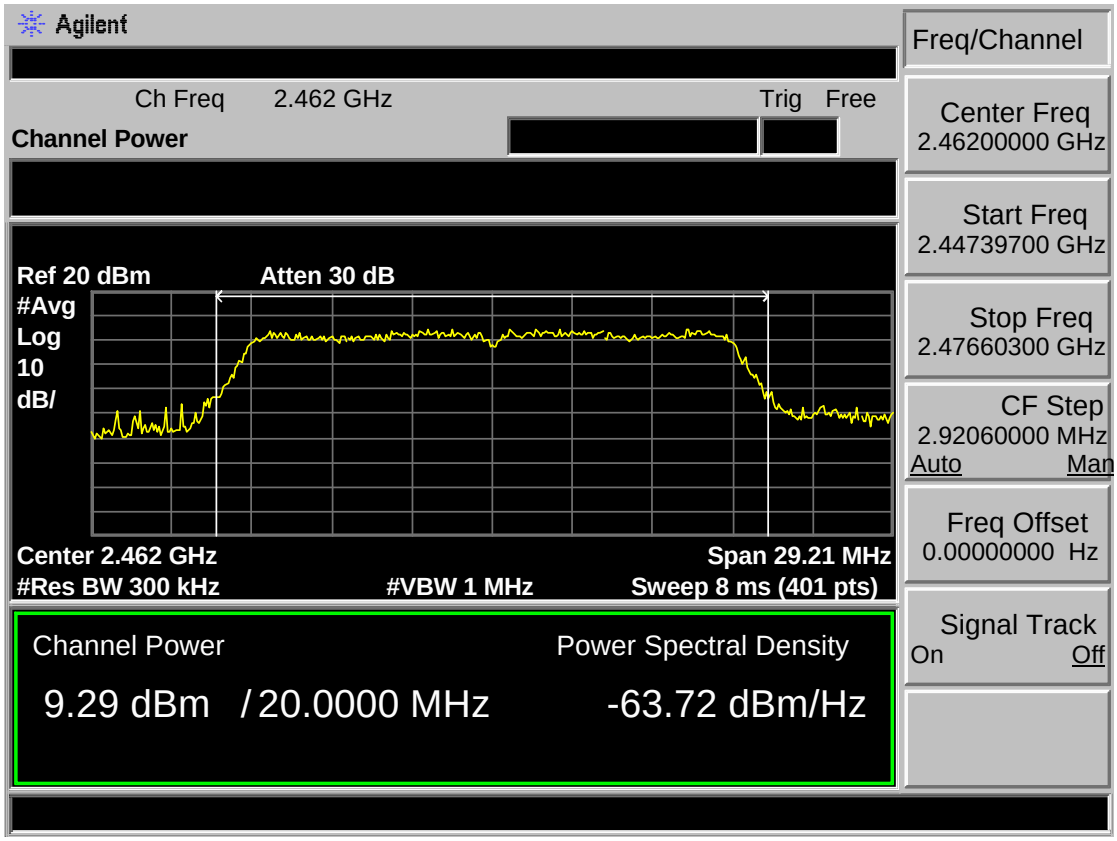
Test Mode: IEEE 802.11n HT20 2412MHz



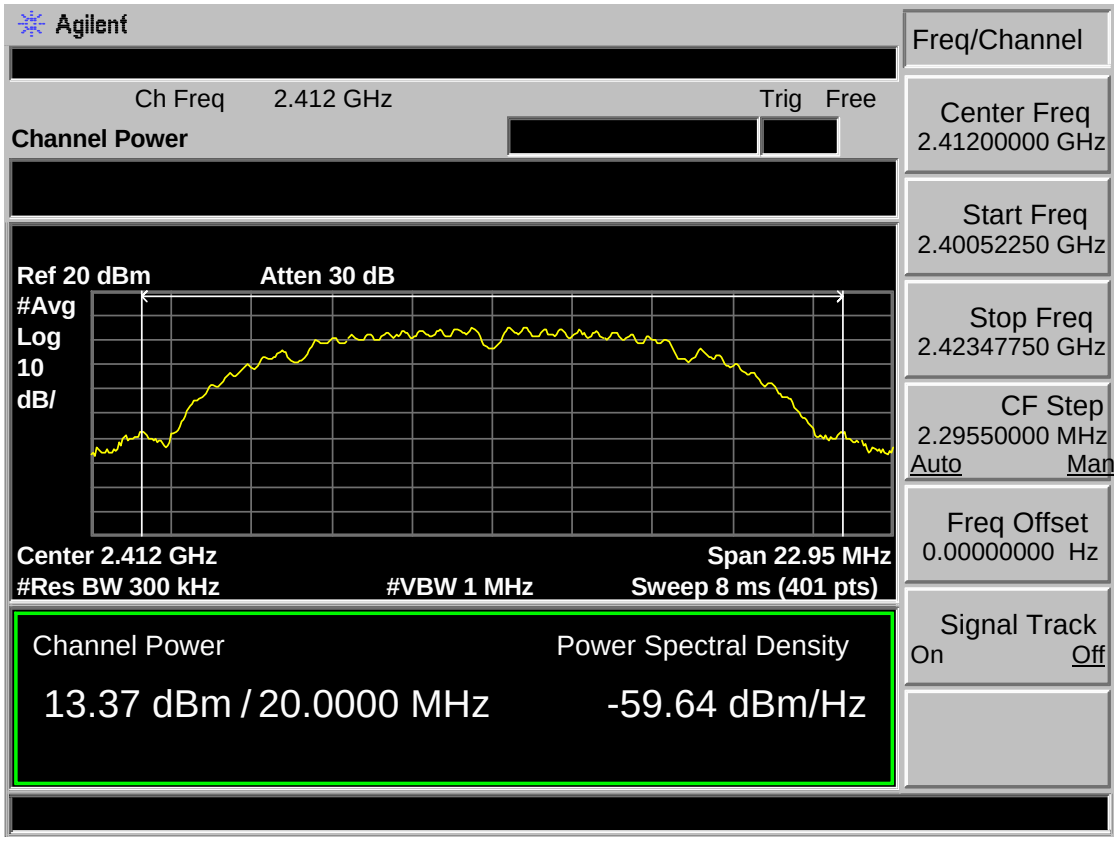

Test Mode: IEEE 802.11n HT20 2437MHz



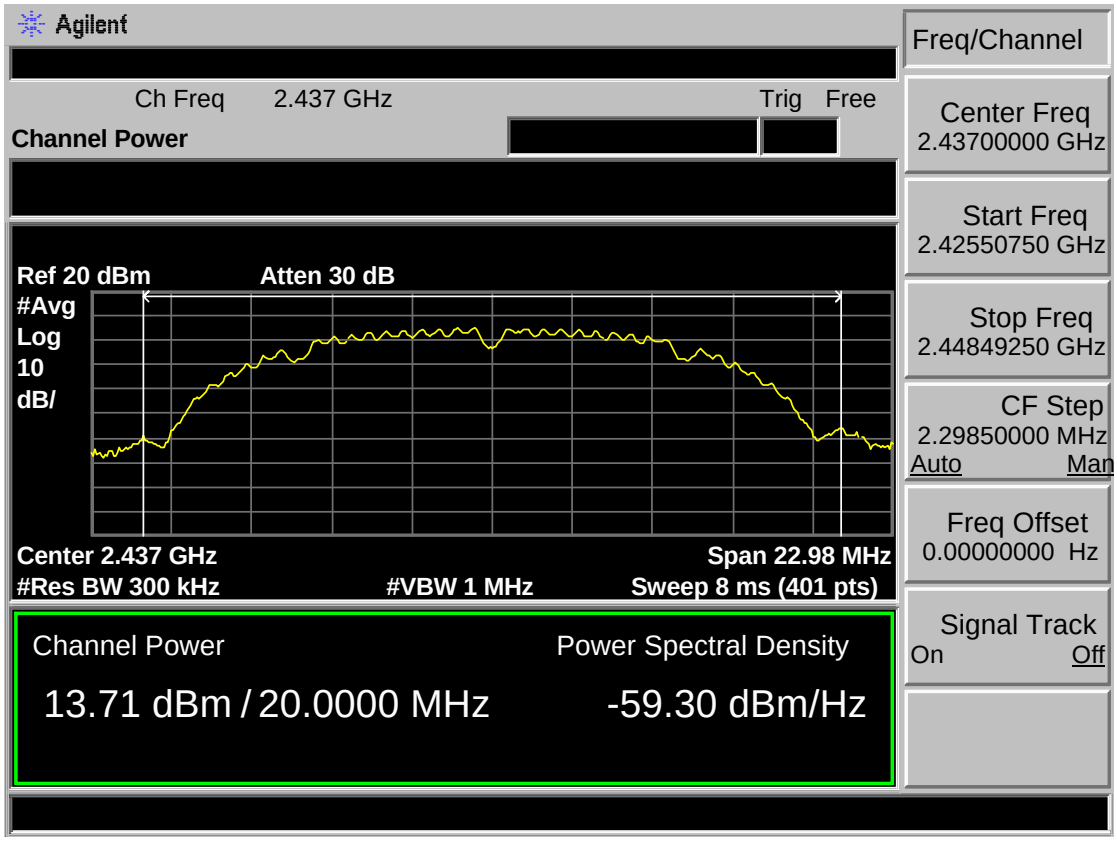
Test Mode: IEEE 802.11n HT20 2462MHz



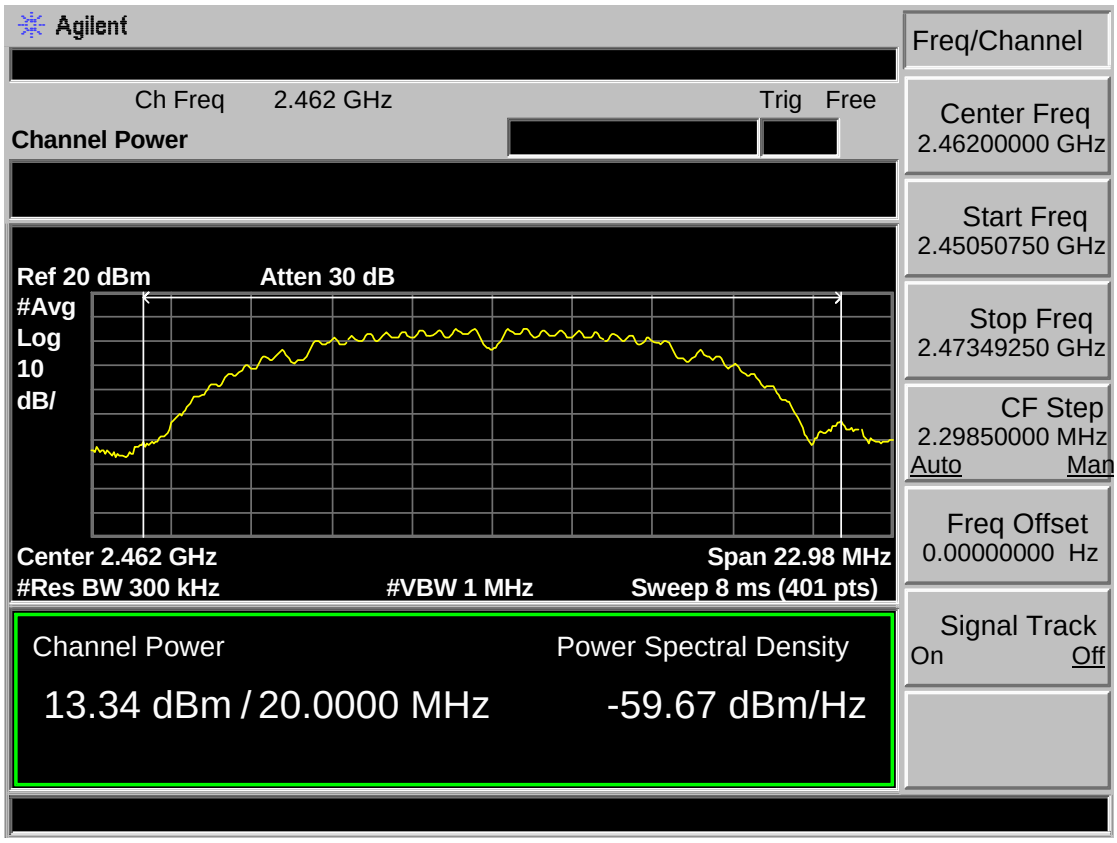
Antenna 2
Test Mode: IEEE 802.11b 2412MHz



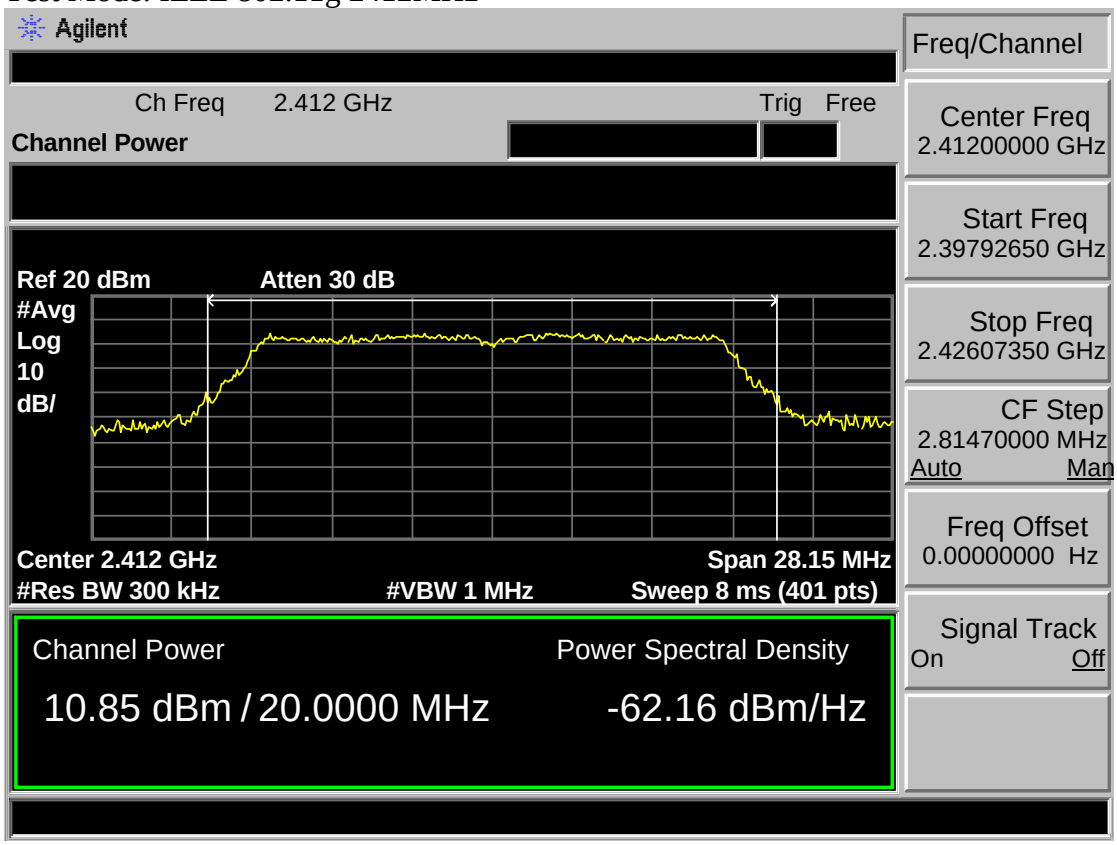

Test Mode: IEEE 802.11b 2437MHz



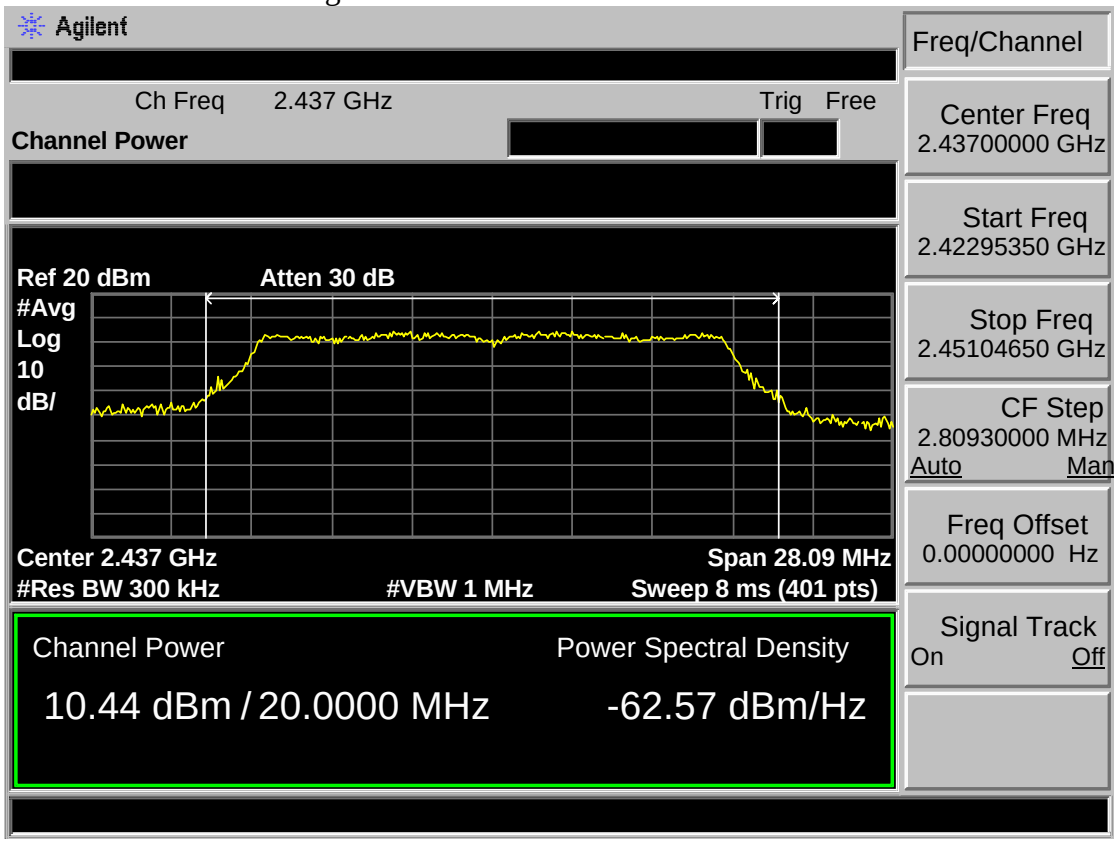
Test Mode: IEEE 802.11b 2462MHz



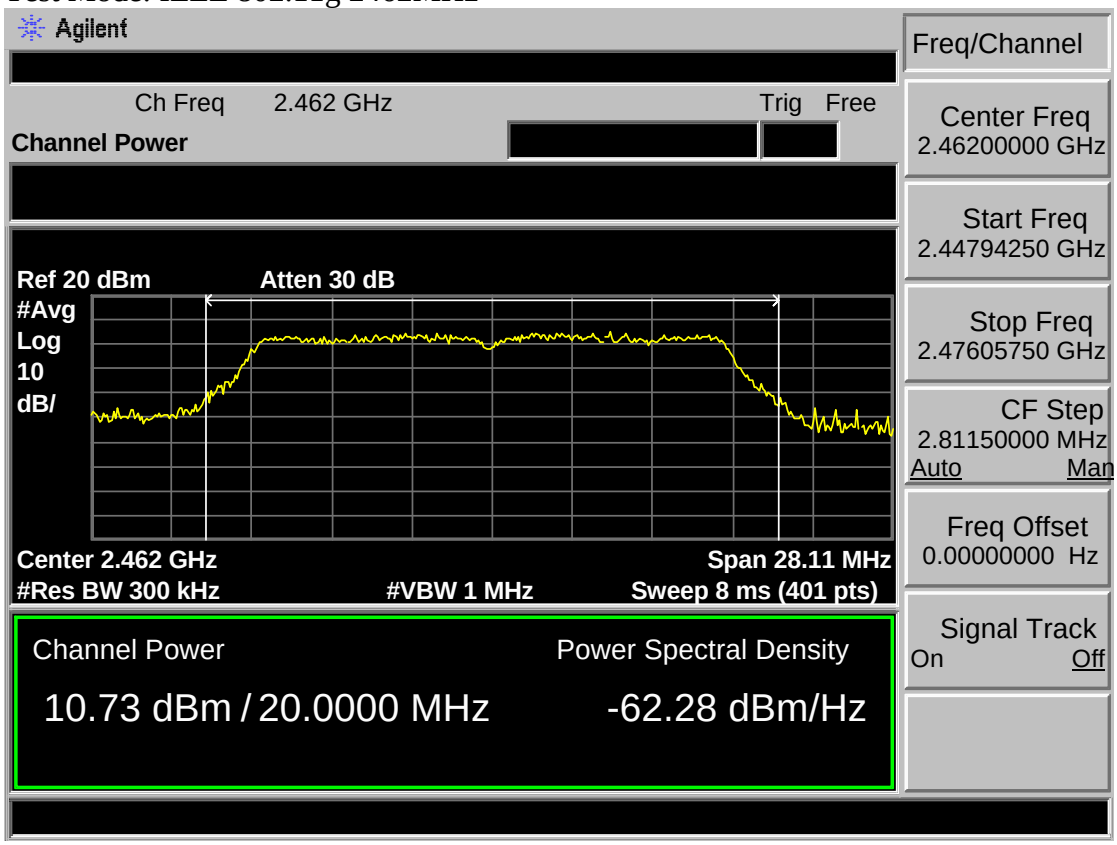
Test Mode: IEEE 802.11g 2412MHz



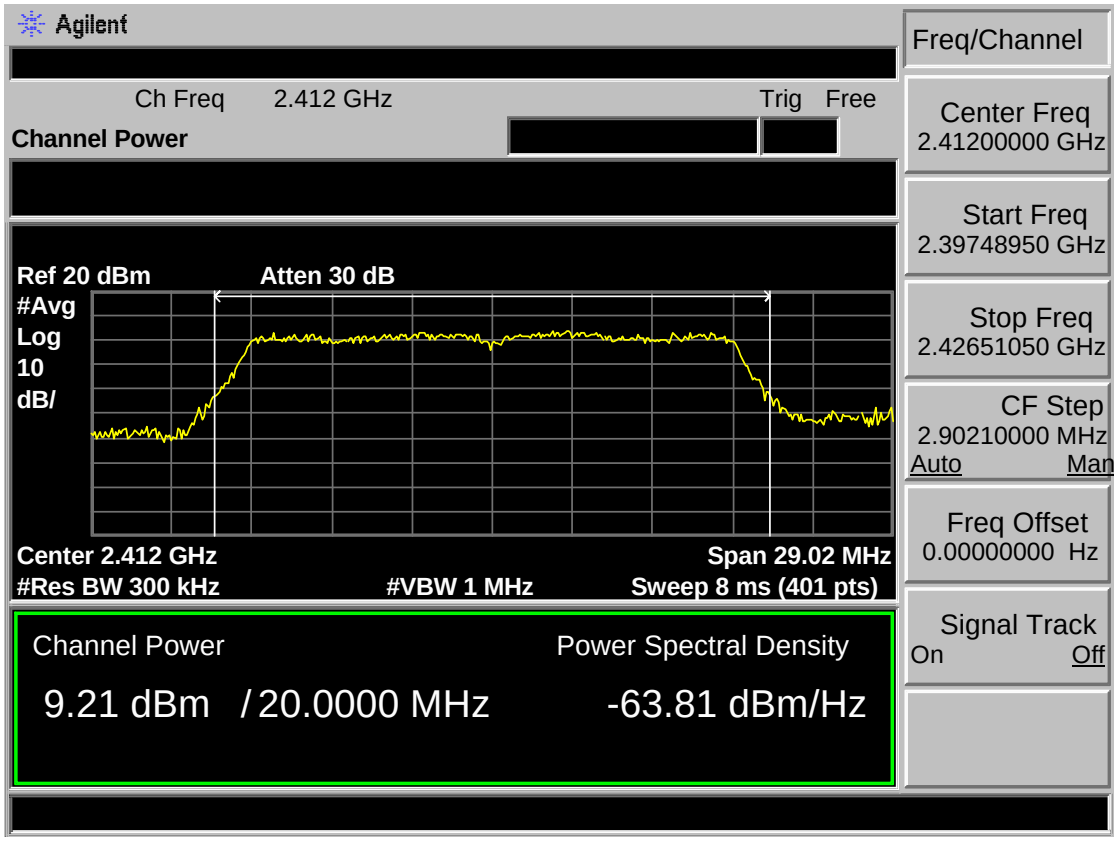

Test Mode: IEEE 802.11g 2437MHz



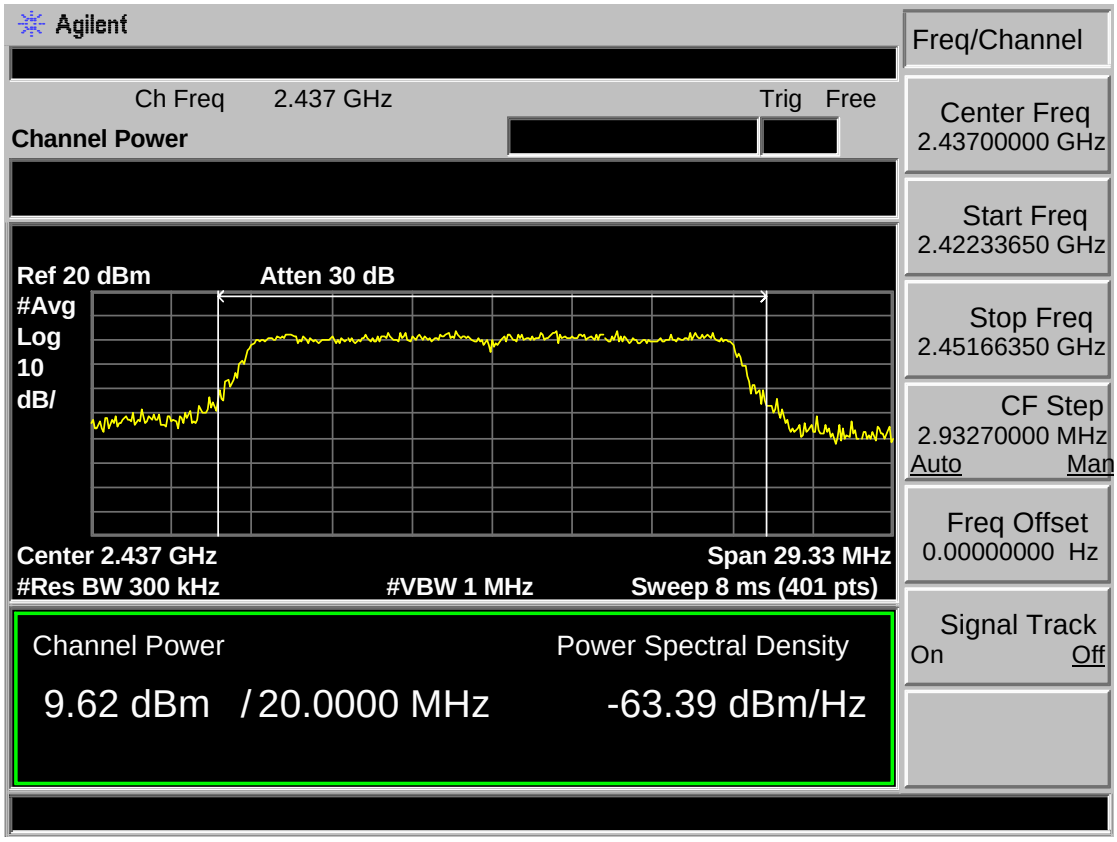
Test Mode: IEEE 802.11g 2462MHz



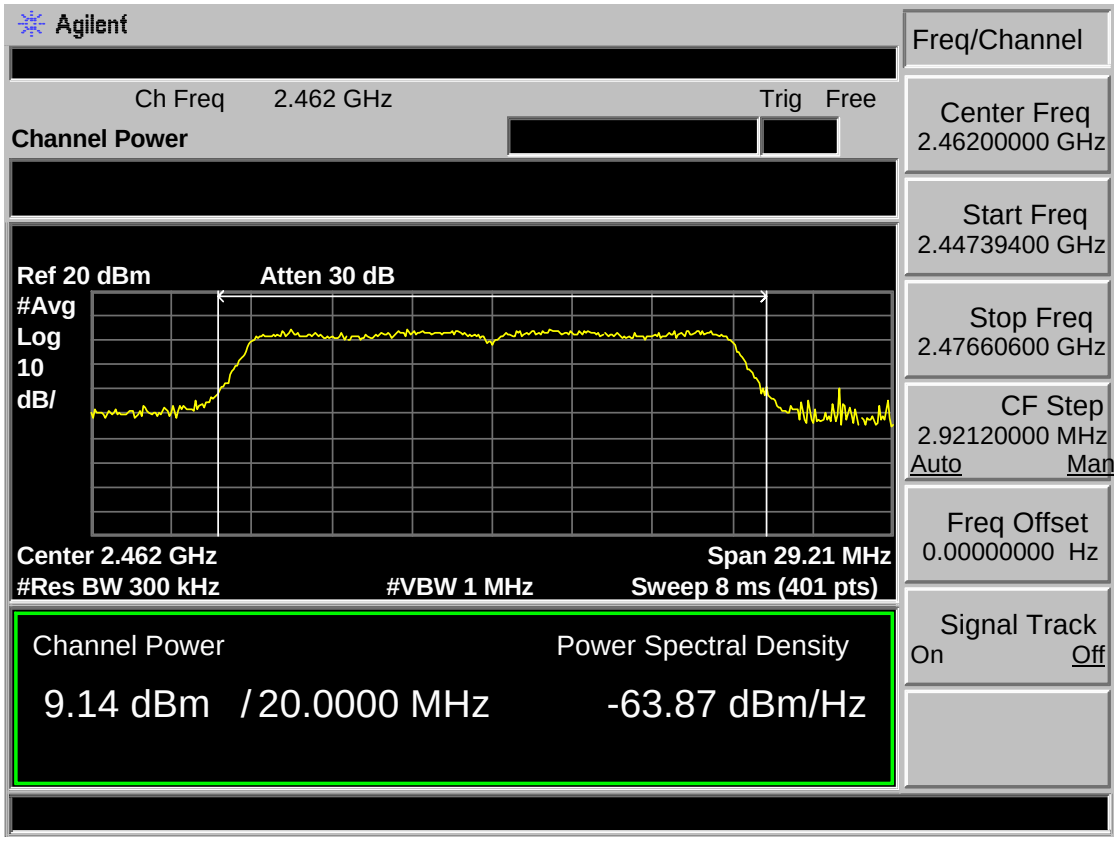
Test Mode: IEEE 802.11n HT20 2412MHz




Test Mode: IEEE 802.11n HT20 2437MHz



Test Mode: IEEE 802.11n HT20 2462MHz



# 8 POWER SPECTRAL DENSITY TEST

## 8.1 Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

## 8.2 Test Procedure

1, The transmitter output (antenna port) was connected to the spectrum analyzer. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable.

2, Follow the test procedure as described in KDB 558074

(1). Set analyzer center frequency to DTS channel center frequency.
(2). Set the span to 1.5 times the DTS bandwidth.
(3). Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
(4). Set the VBW ≥ 3 RBW.
(5). Detector = peak.
(6). Sweep time = auto couple.
(7). Trace mode = max hold.
(8). Allow trace to fully stabilize.
(9). Use the peak marker function to determine the maximum amplitude level.
(10). If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

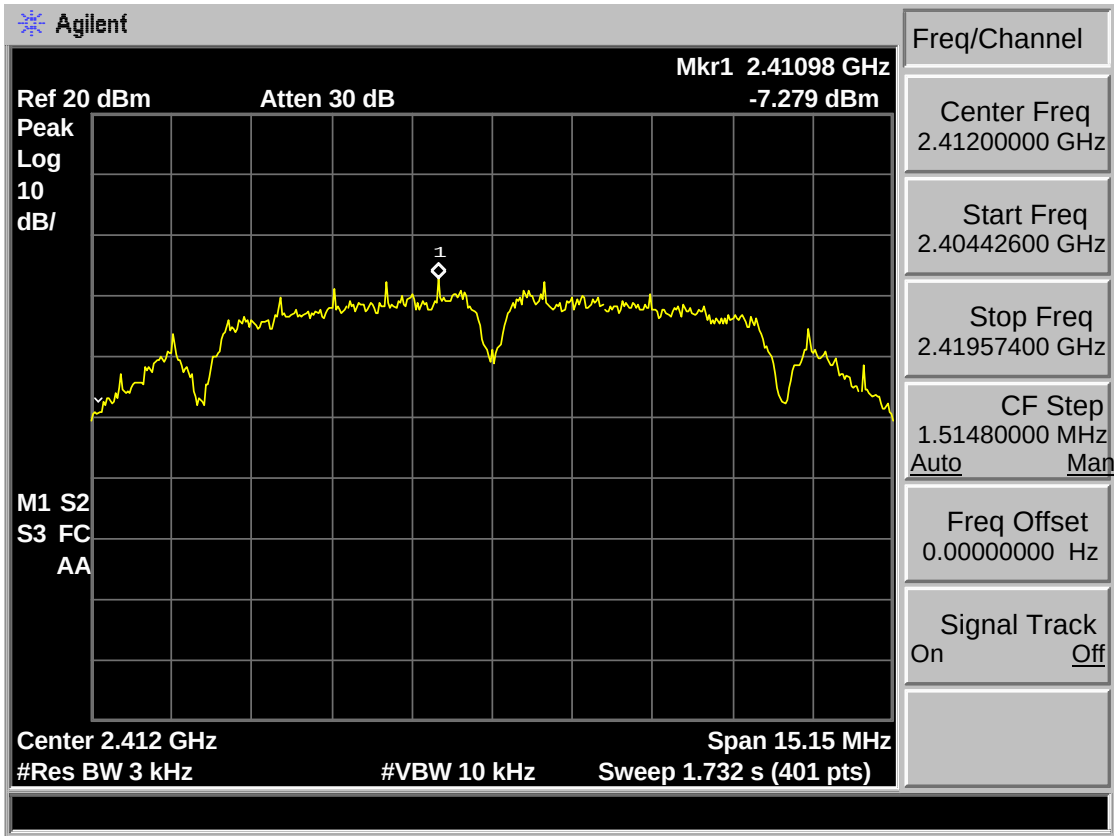
## 8.3 Test Result

| EUT: Big Blue 100 | | | | |
|---|---|---|---|---|
| M/N: AD107A4BKA | | | | |
| Test date: 2017-01-20 | | Test site: 3m Chamber | | Tested by: Tony Tang |
| Pass | | | | |
| Test Mode | CH | Power density（dBm/3kHz） | | Limit (dBm/3kHz) |
| | | ANT 1 | ANT 2 | |
| IEEE 802.11 b | CH1 | -7.27 | -7.30 | 8 |
| | CH6 | -7.30 | -7.42 | 8 |
| | CH11 | -7.81 | -7.92 | 8 |
| IEEE 802.11 g | CH1 | -11.62 | -11.93 | 8 |
| | CH6 | -11.72 | -12.53 | 8 |
| | CH11 | -11.46 | -12.29 | 8 |
| IEEE 802.11 n HT 20 | CH1 | -9.54 | -9.02 | 8 |
| | CH6 | -10.18 | -9.68 | 8 |
| | CH11 | -9.39 | -10.00 | 8 |
| Conclusion：PASS | | | | |

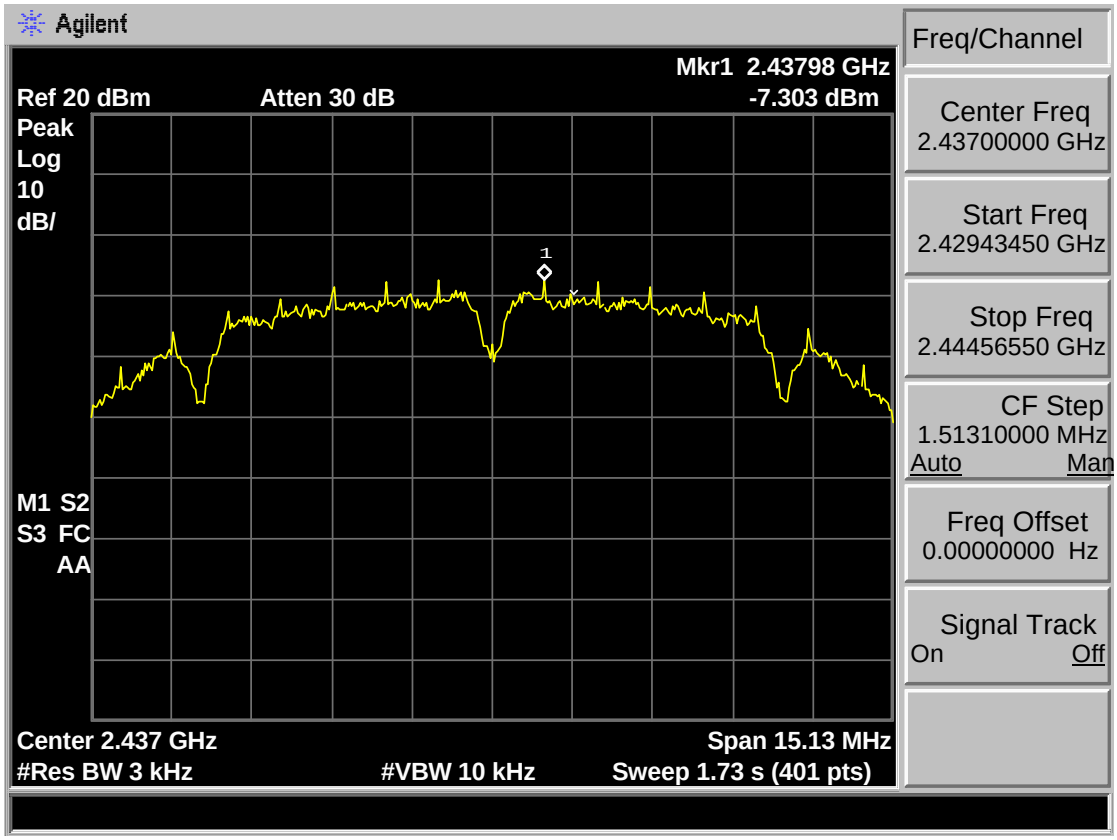
## 8.4 Test Data

Antenna 1

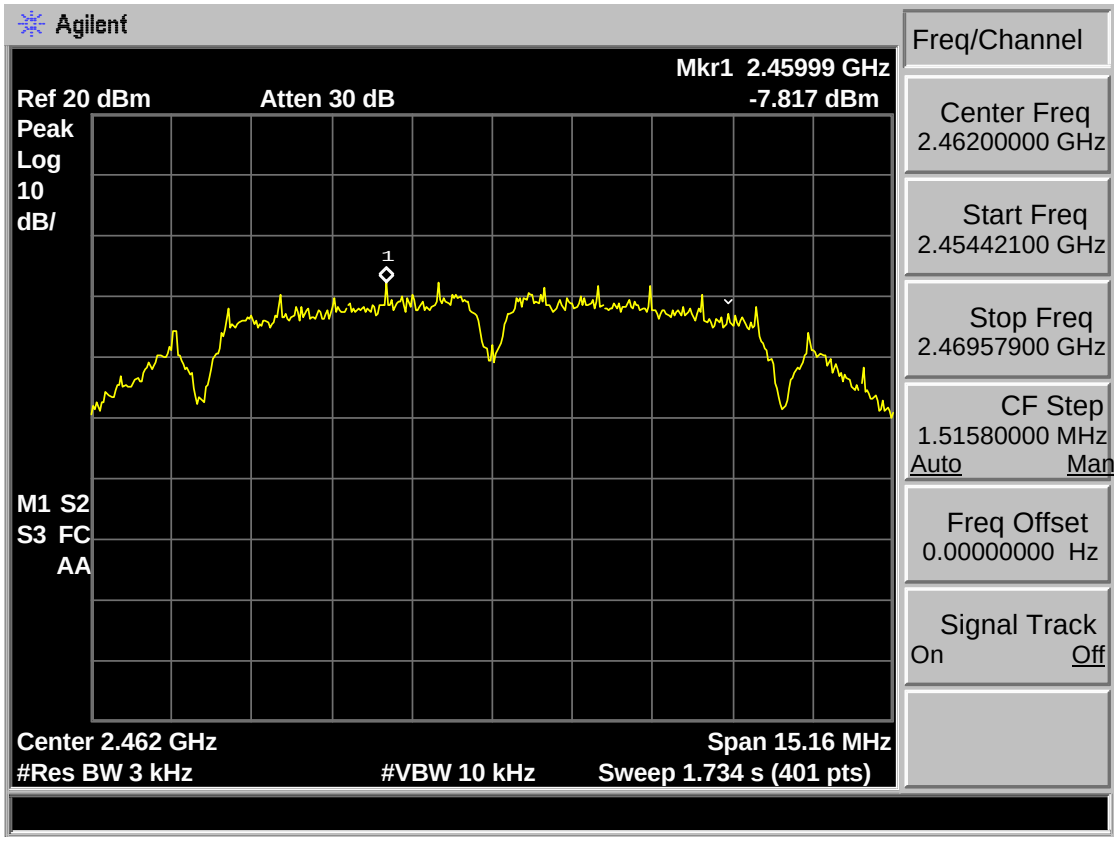
Test Mode: IEEE 802.11b 2412MHz



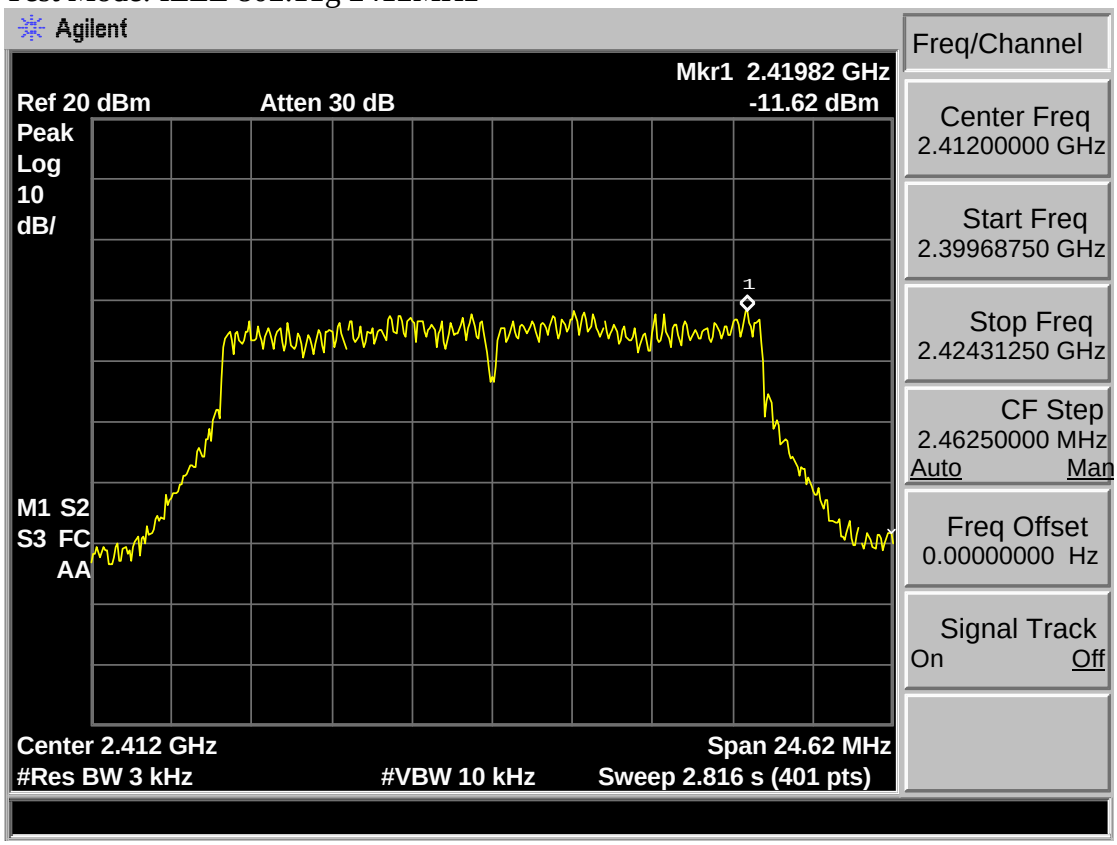

Test Mode: IEEE 802.11b 2437MHz



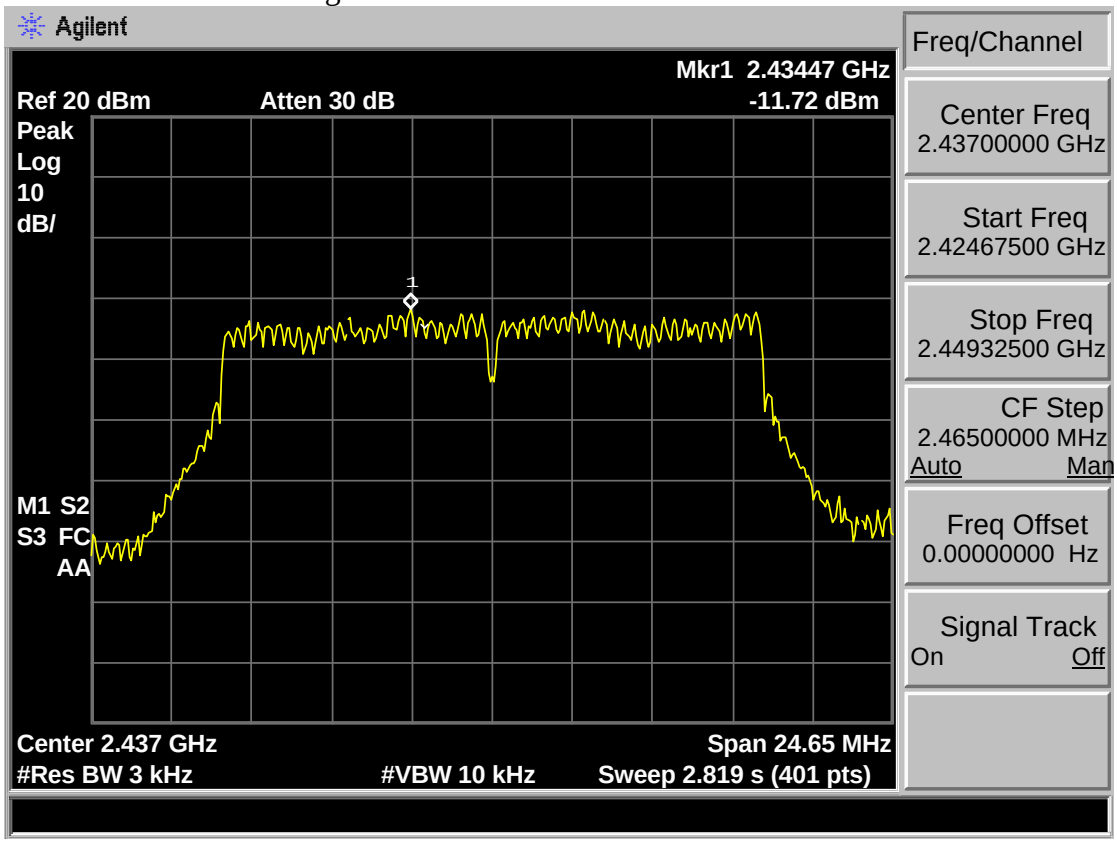
Test Mode: IEEE 802.11b 2462MHz



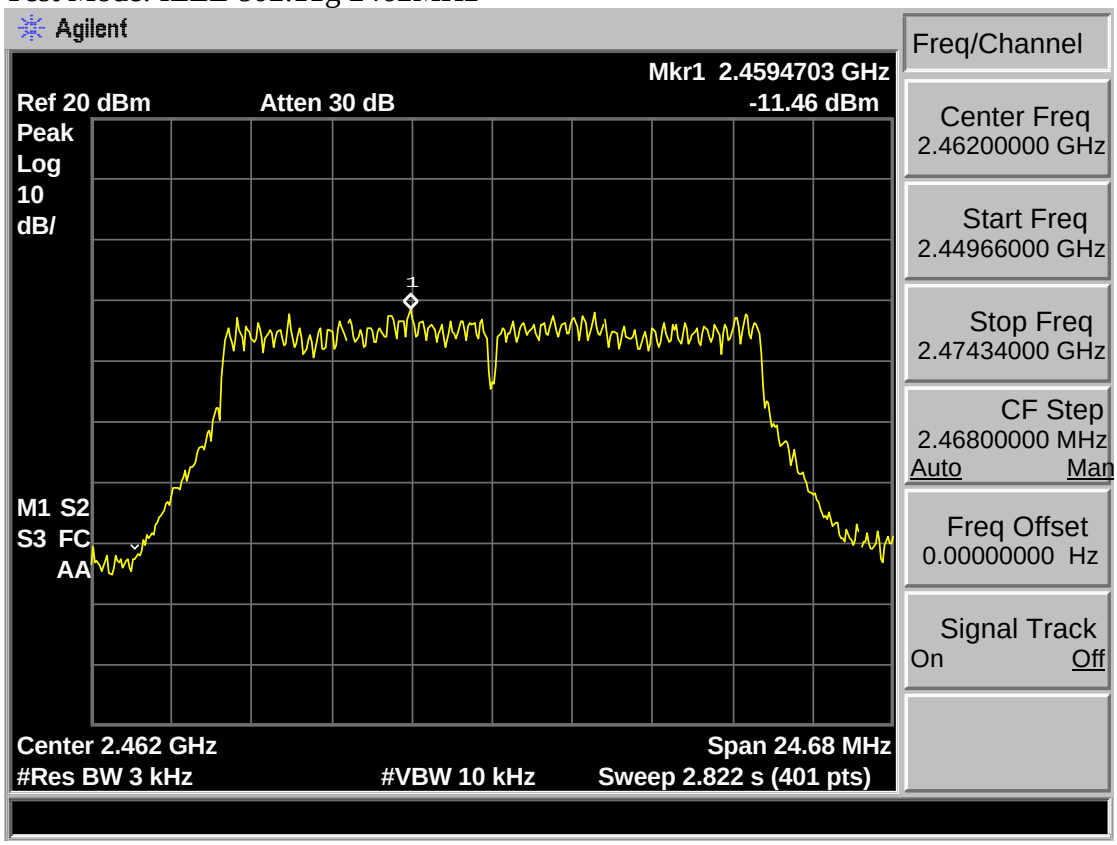
Test Mode: IEEE 802.11g 2412MHz



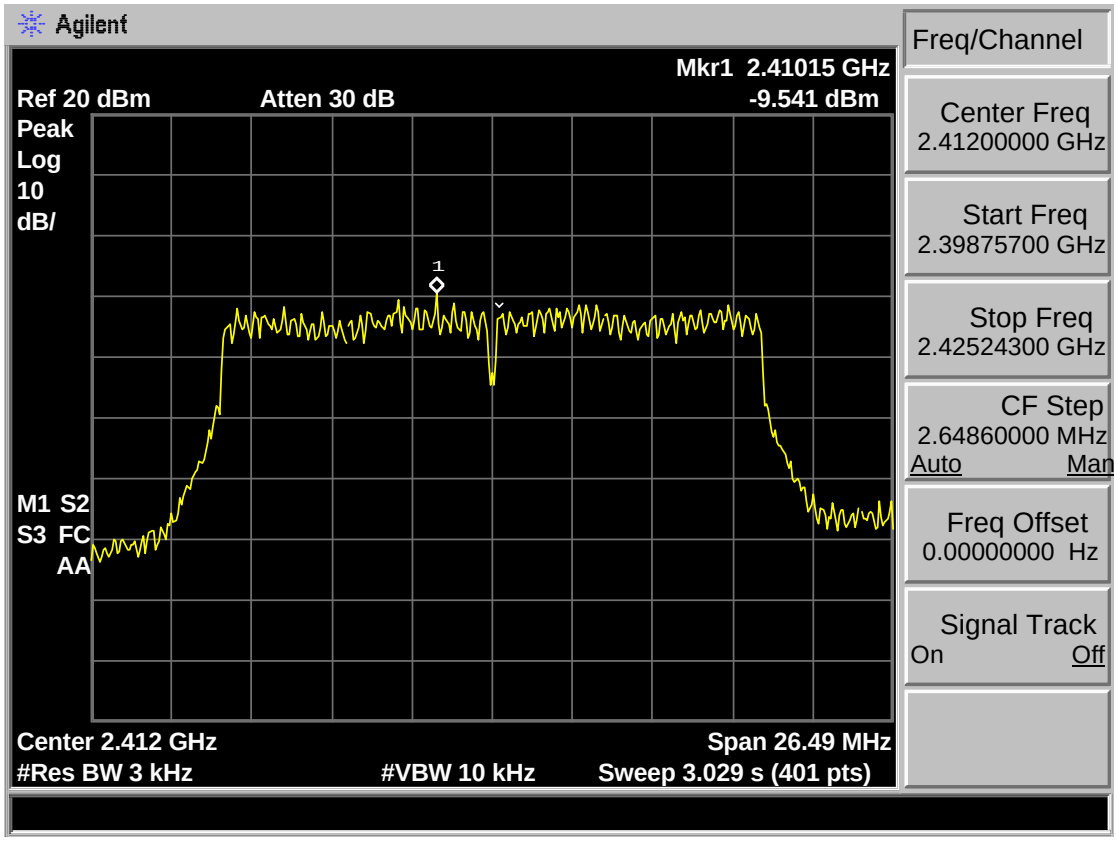

Test Mode: IEEE 802.11g 2437MHz



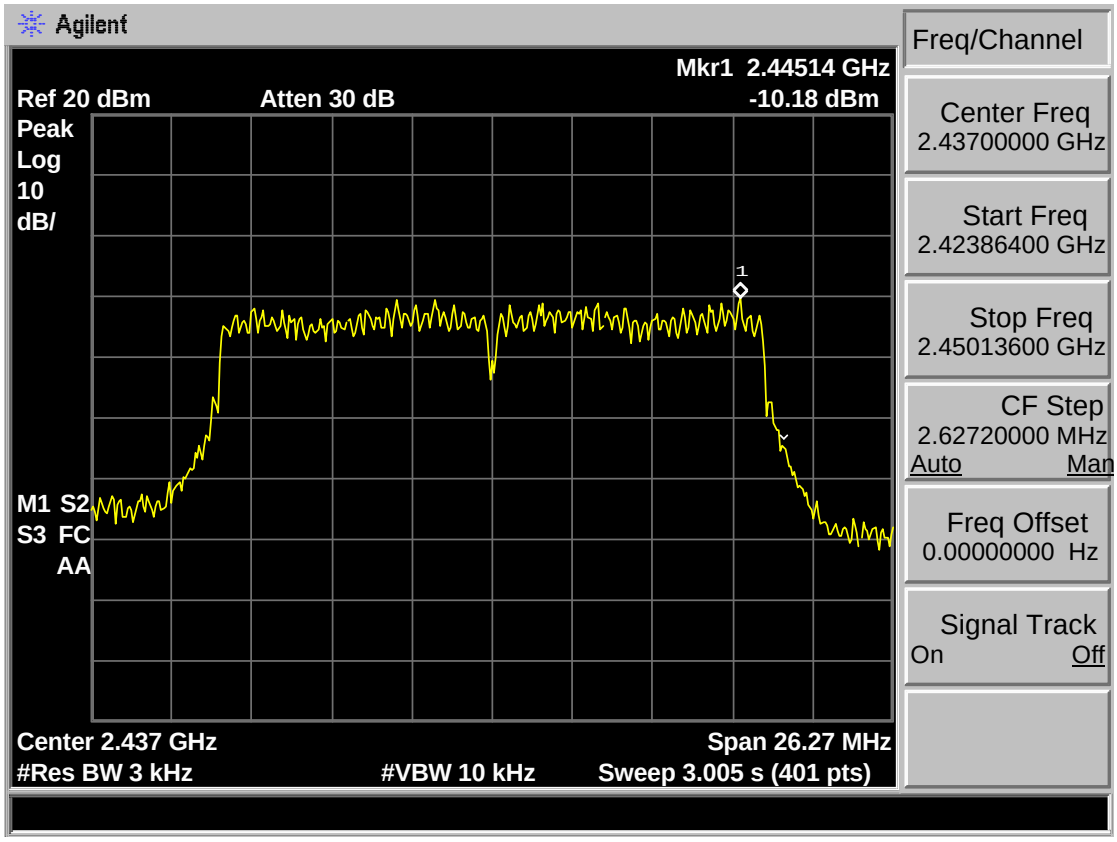
Test Mode: IEEE 802.11g 2462MHz



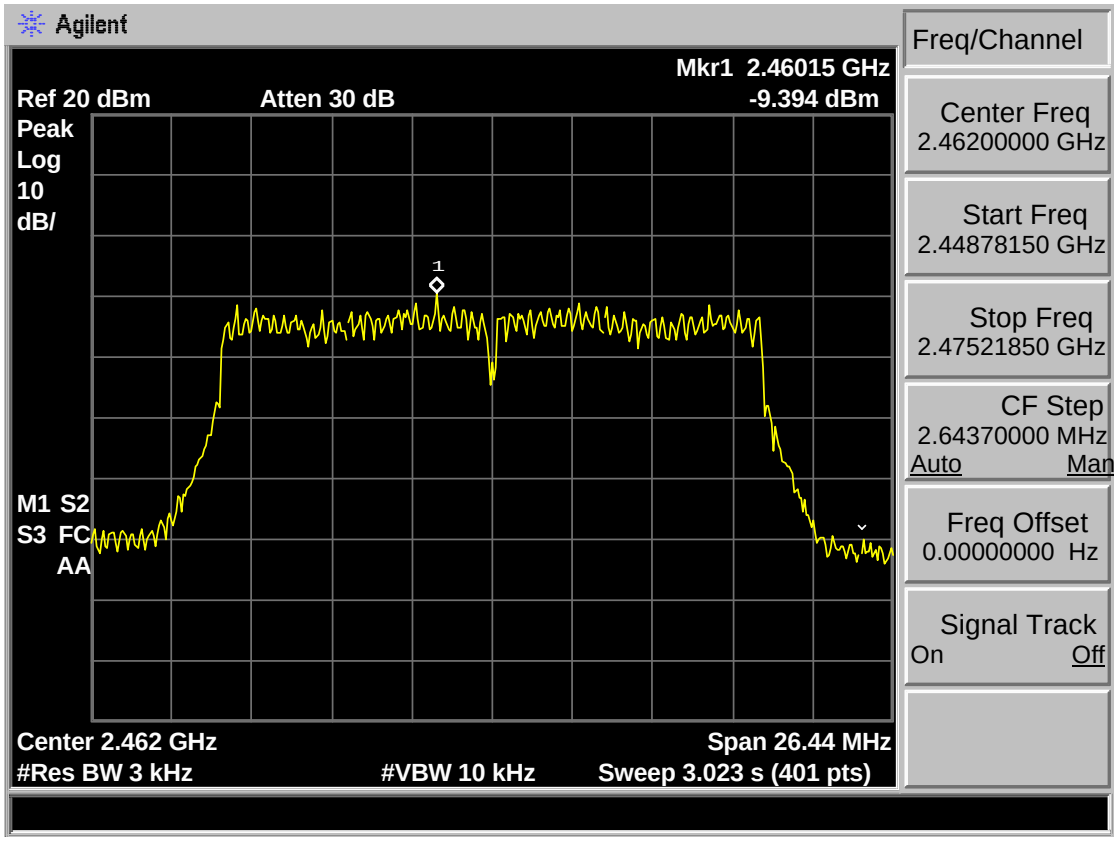
Test Mode: IEEE 802.11n HT20 2412MHz



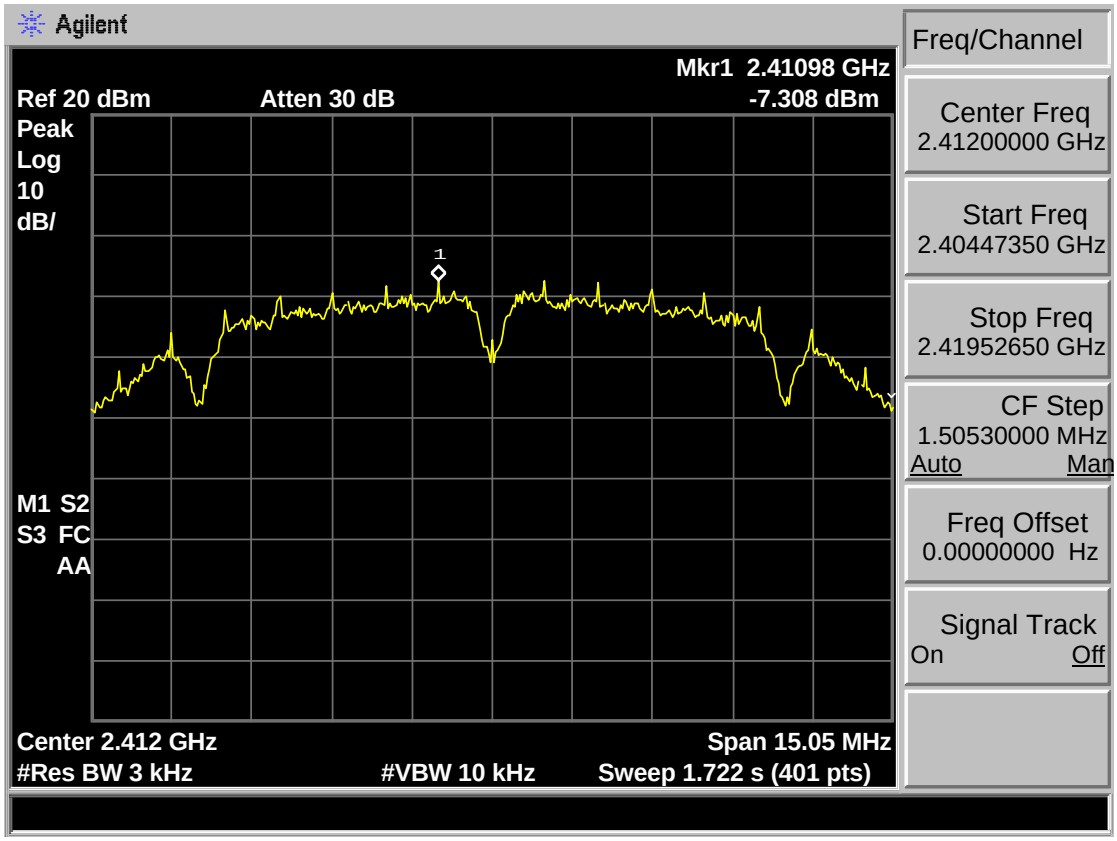

Test Mode: IEEE 802.11n HT20 2437MHz



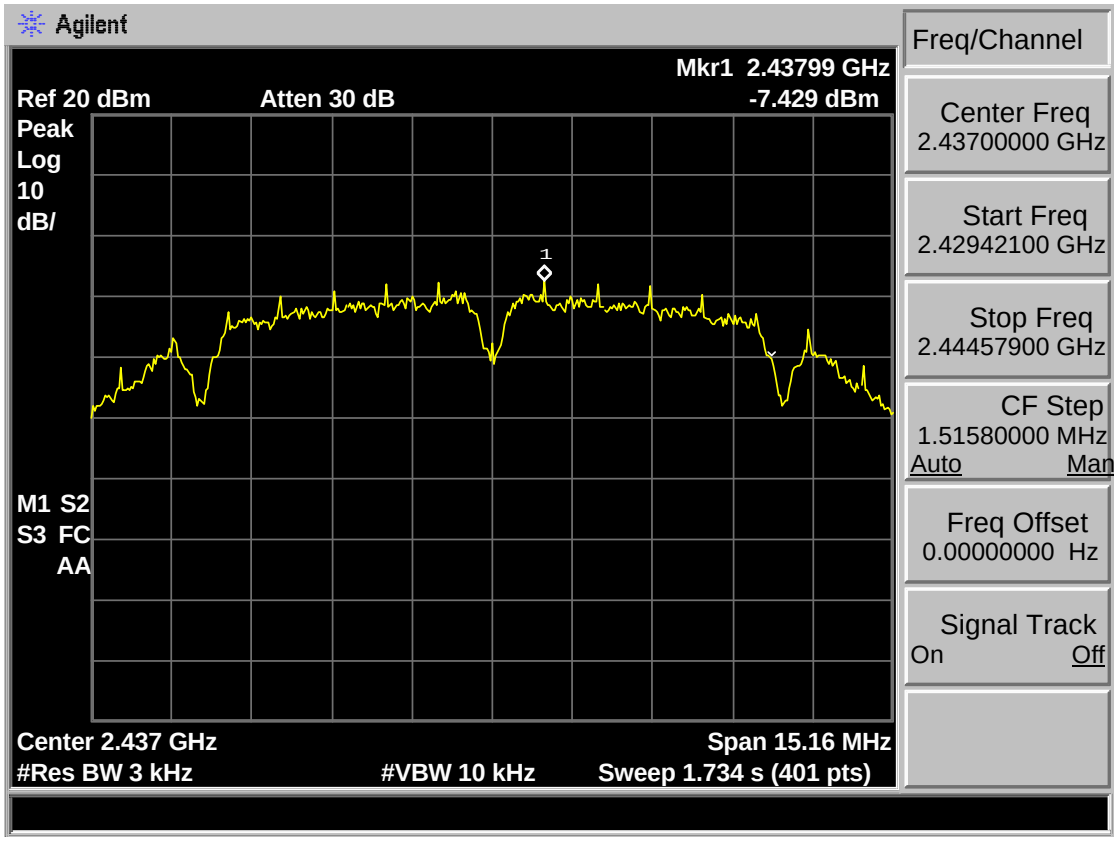
Test Mode: IEEE 802.11n HT20 2462MHz



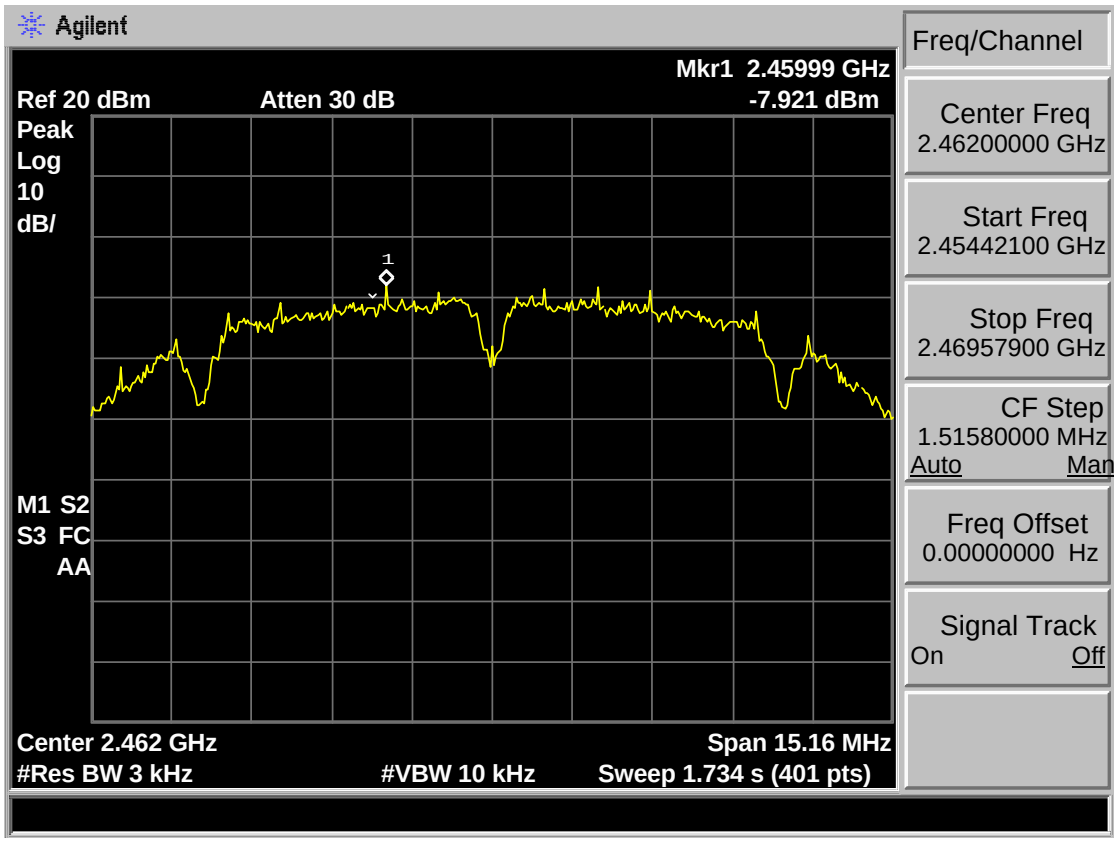
Antenna 2
Test Mode: IEEE 802.11b 2412MHz



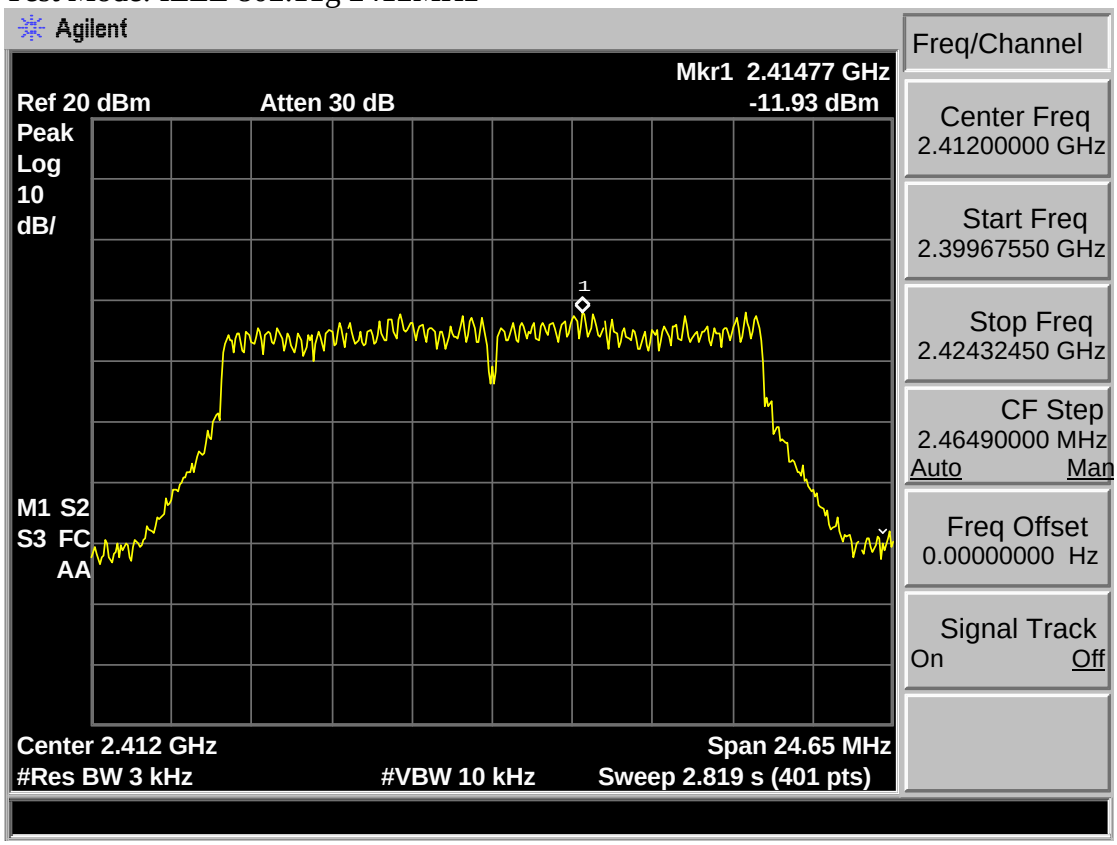

Test Mode: IEEE 802.11b 2437MHz



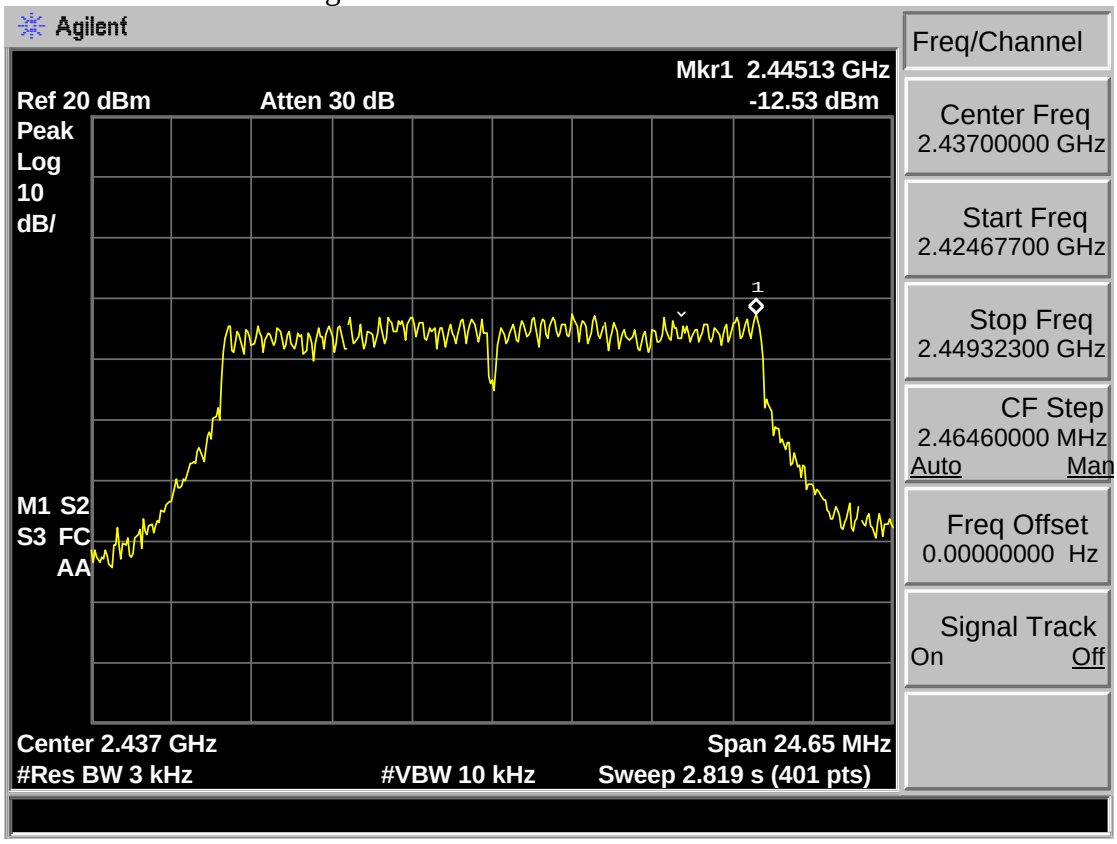
Test Mode: IEEE 802.11b 2462MHz



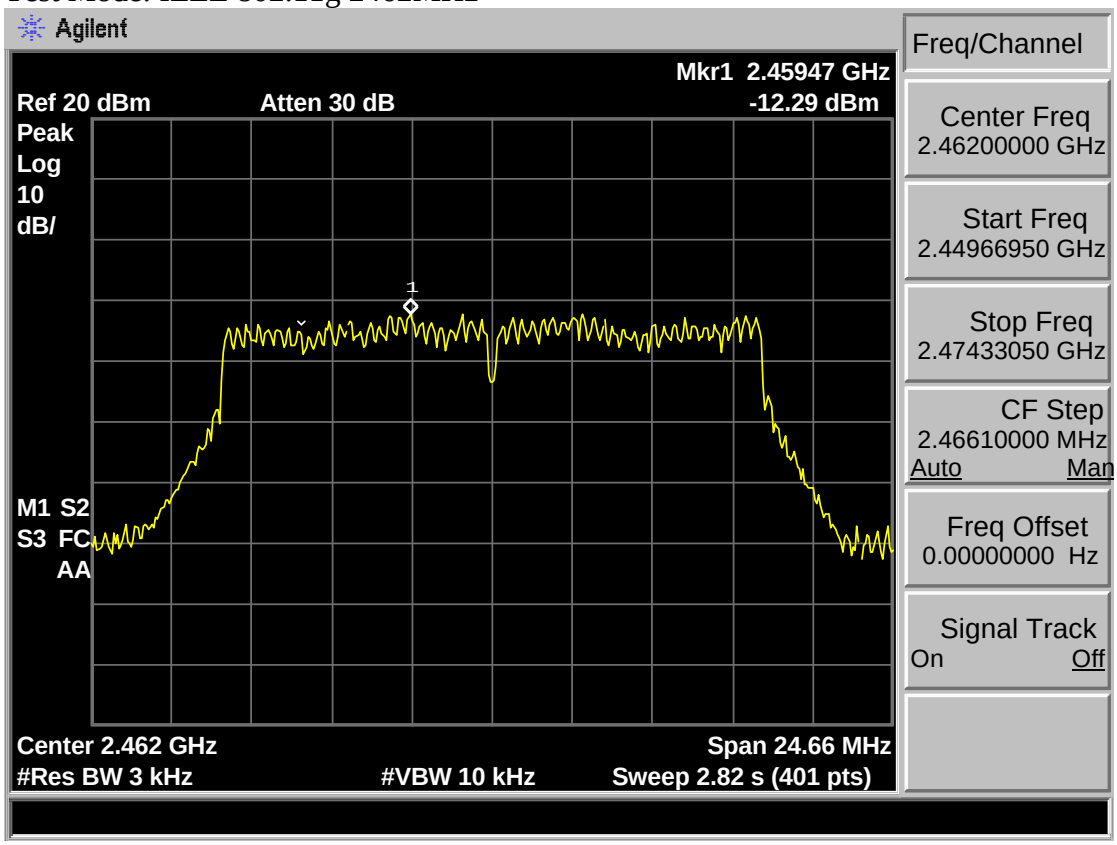
Test Mode: IEEE 802.11g 2412MHz



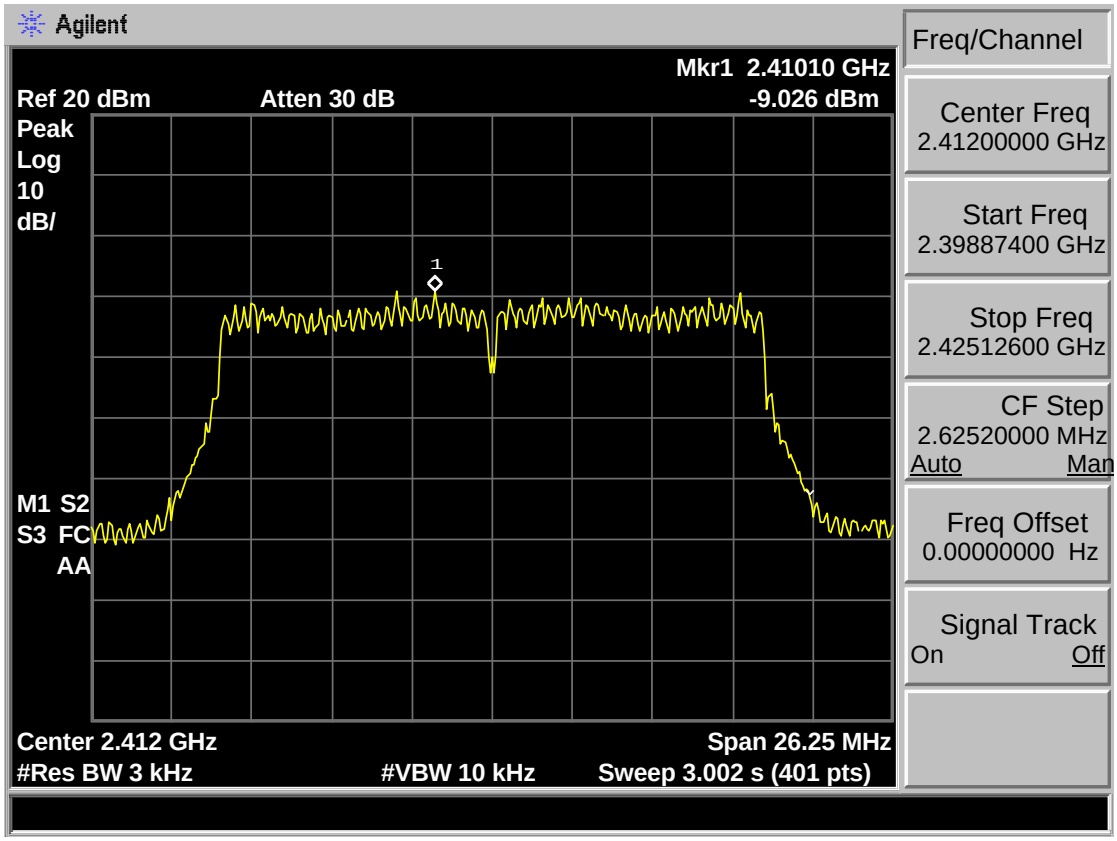

Test Mode: IEEE 802.11g 2437MHz



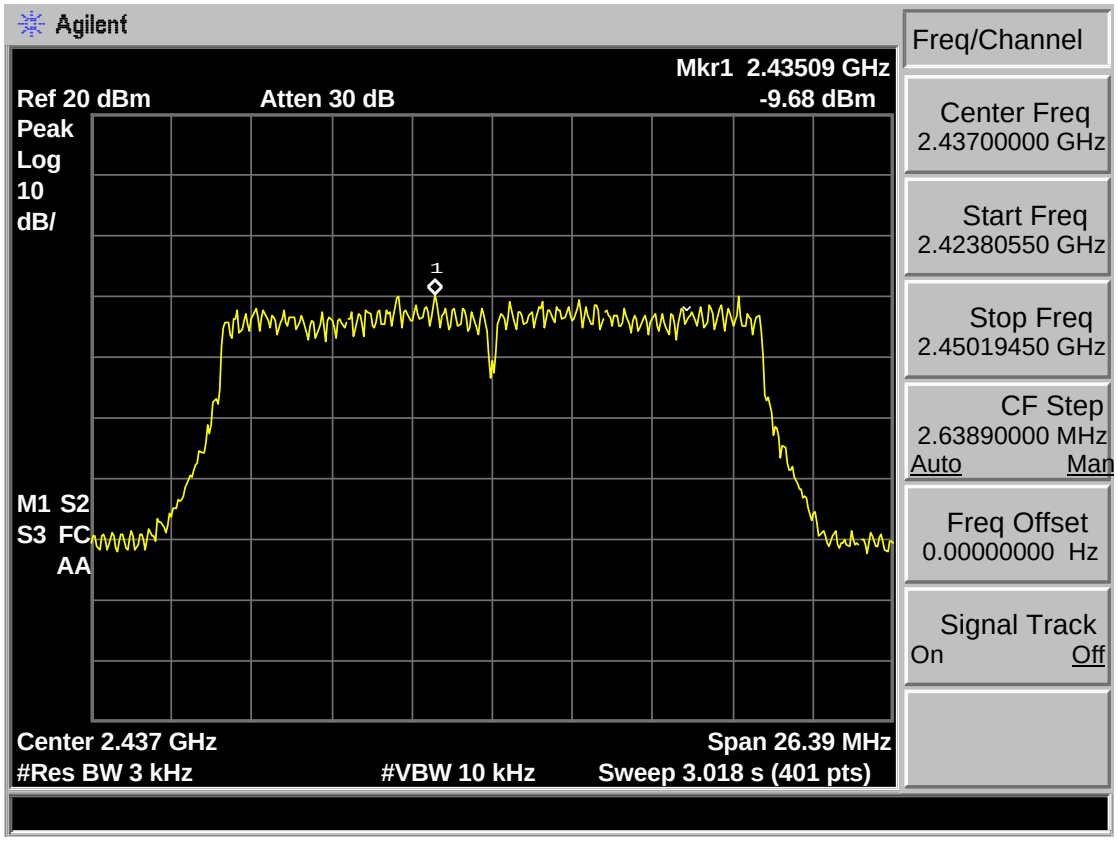
Test Mode: IEEE 802.11g 2462MHz



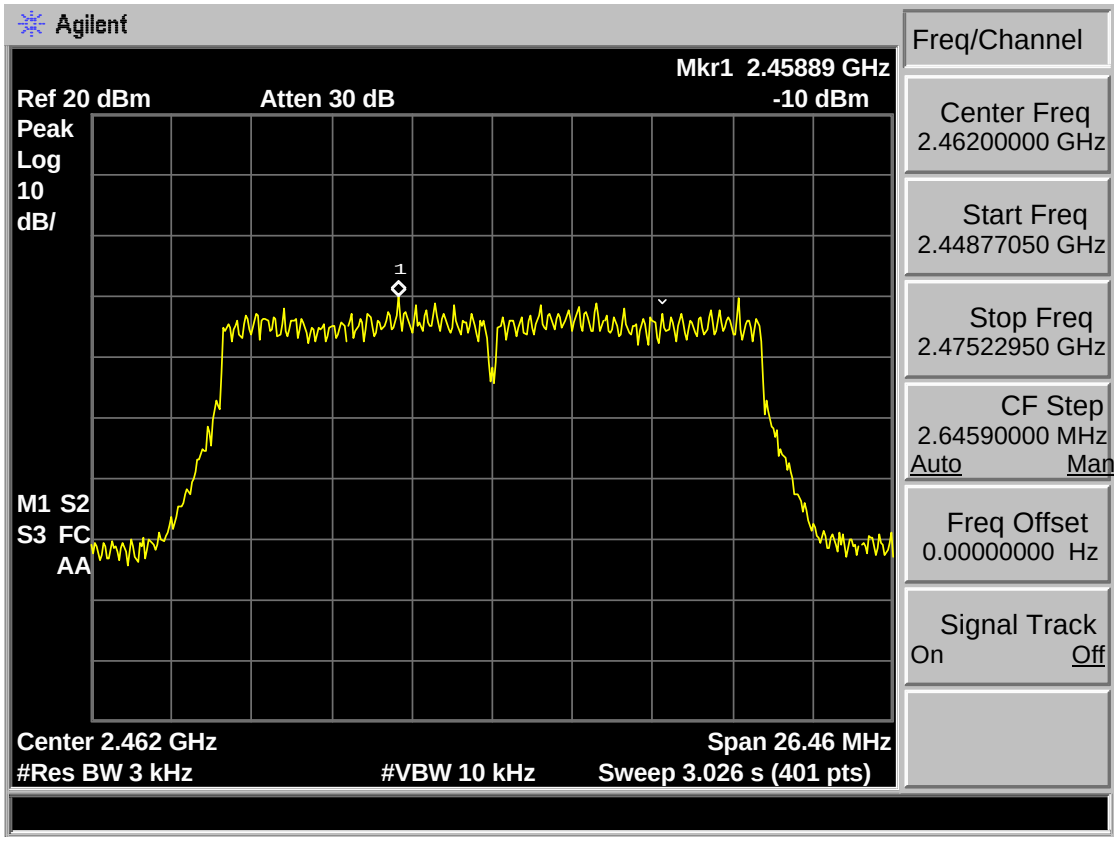
Test Mode: IEEE 802.11n HT20 2412MHz




Test Mode: IEEE 802.11n HT20 2437MHz



Test Mode: IEEE 802.11n HT20 2462MHz



# 9 ANTENNA REQUIREMENTS

## 9.1 Limit

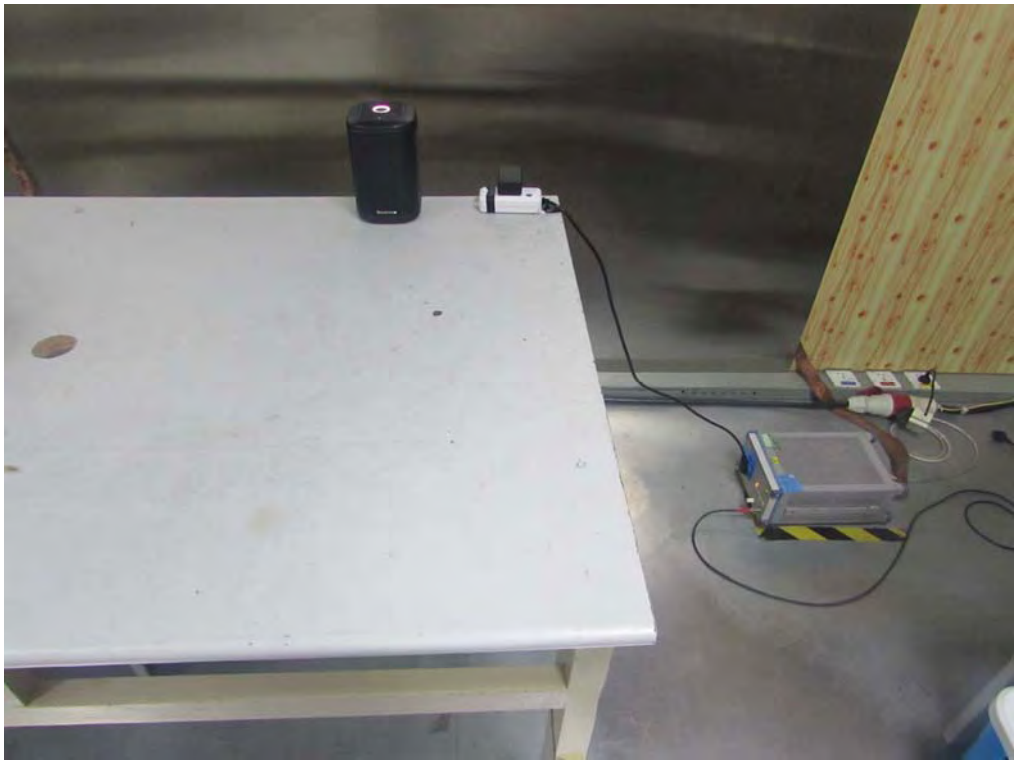
For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

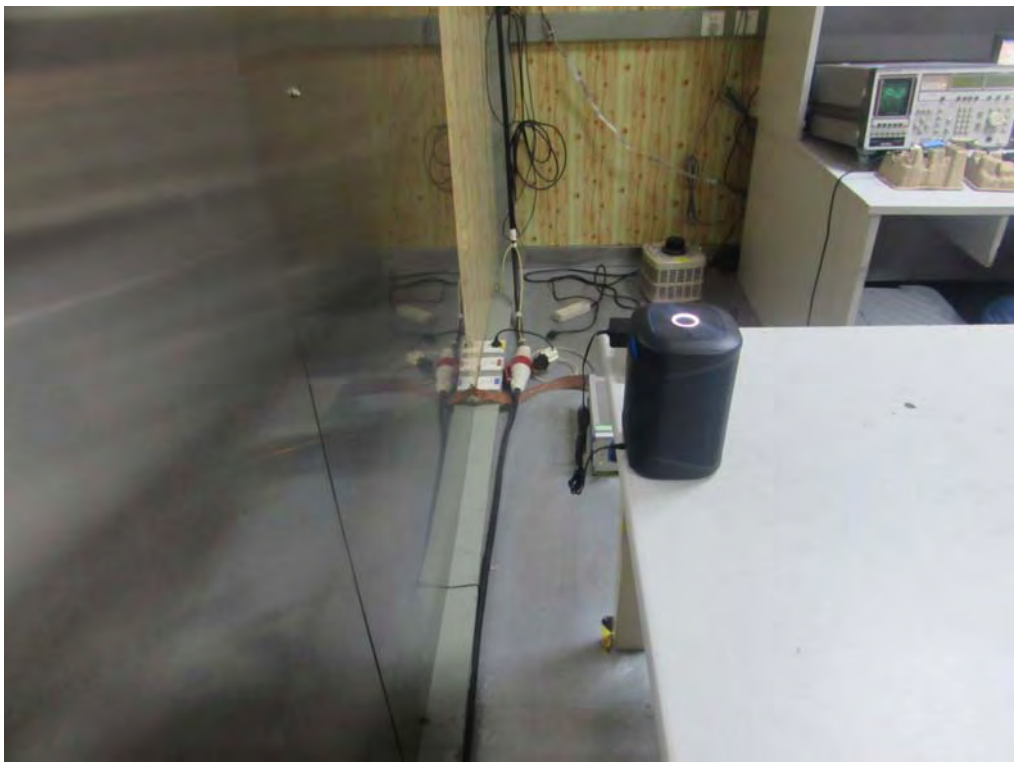
## 9.2 Result

The antennas used for this product are FPCB antenna and that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is only 3.24 dBi.

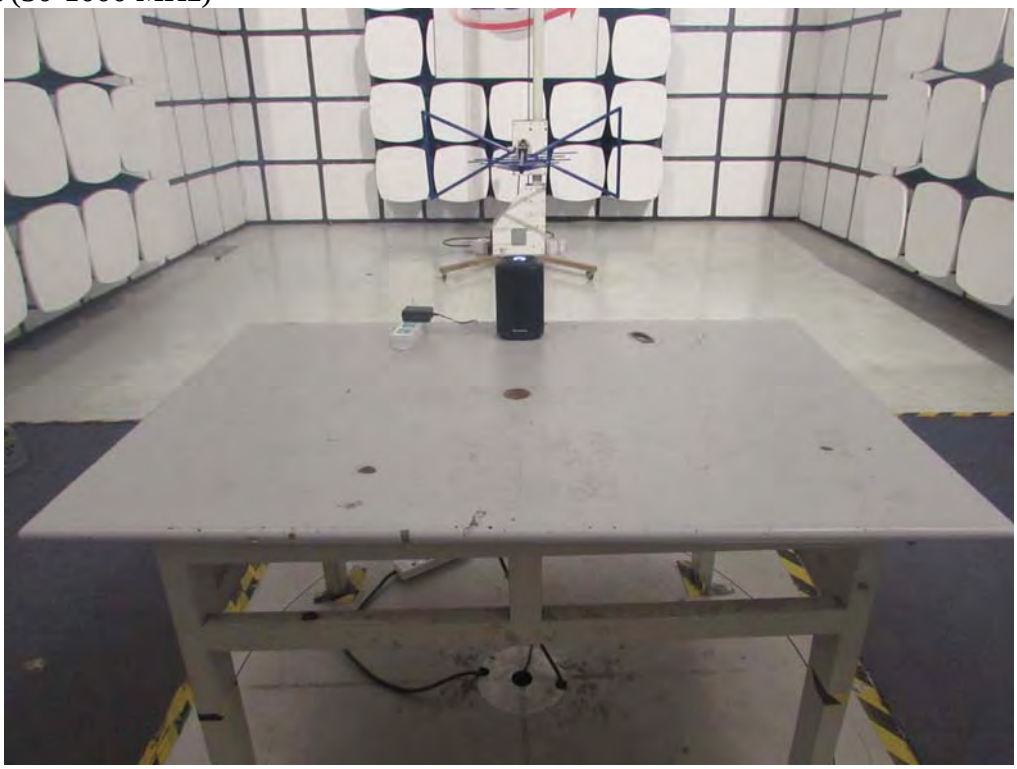
# 10 TEST SETUP PHOTO

Conducted Test

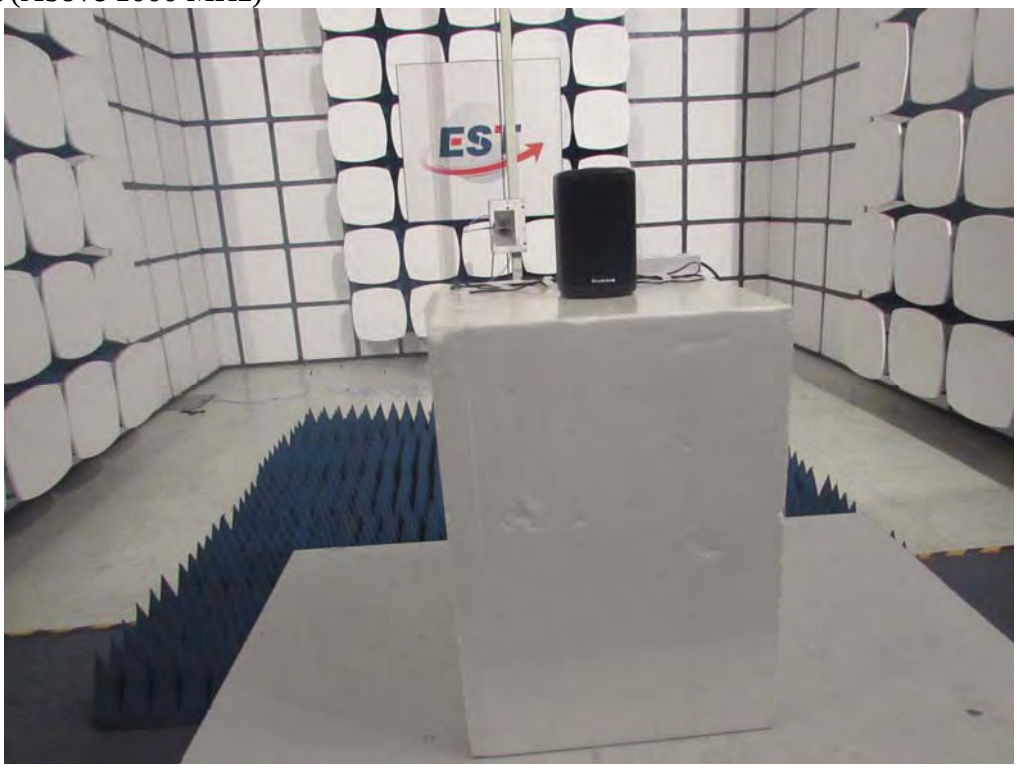




Radiated Test (30-1000 MHz)



Radiated Test (Above 1000 MHz)



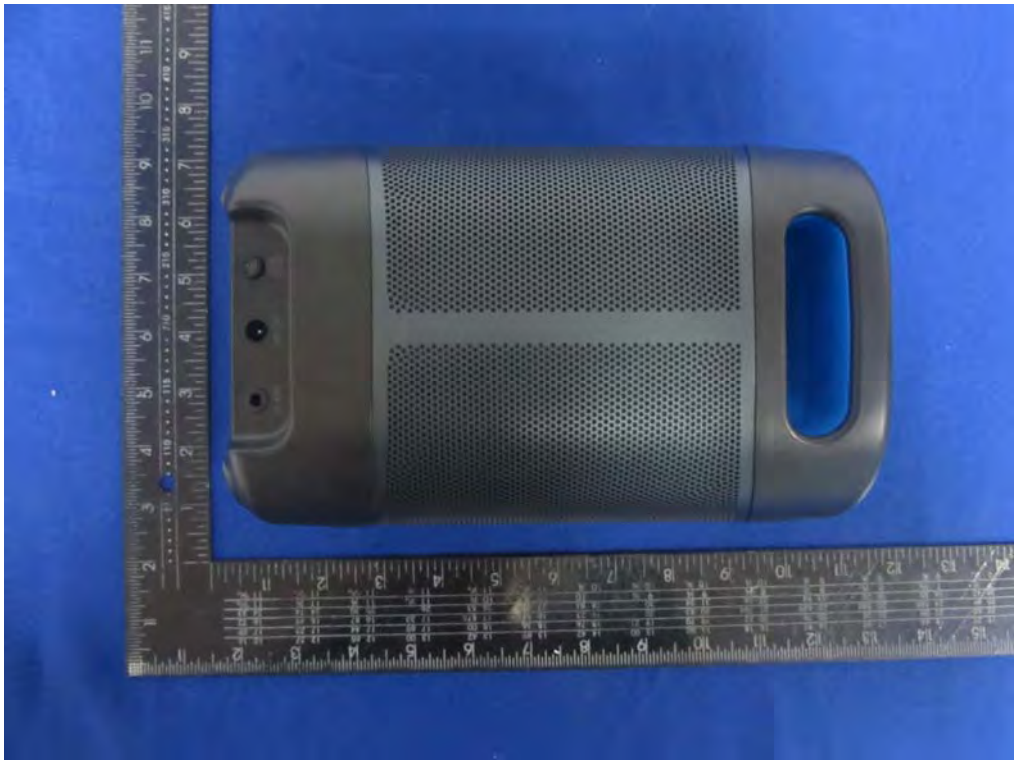
# 11 PHOTOS OF EUT

**External Photos**

M/N: AD107A4BKA

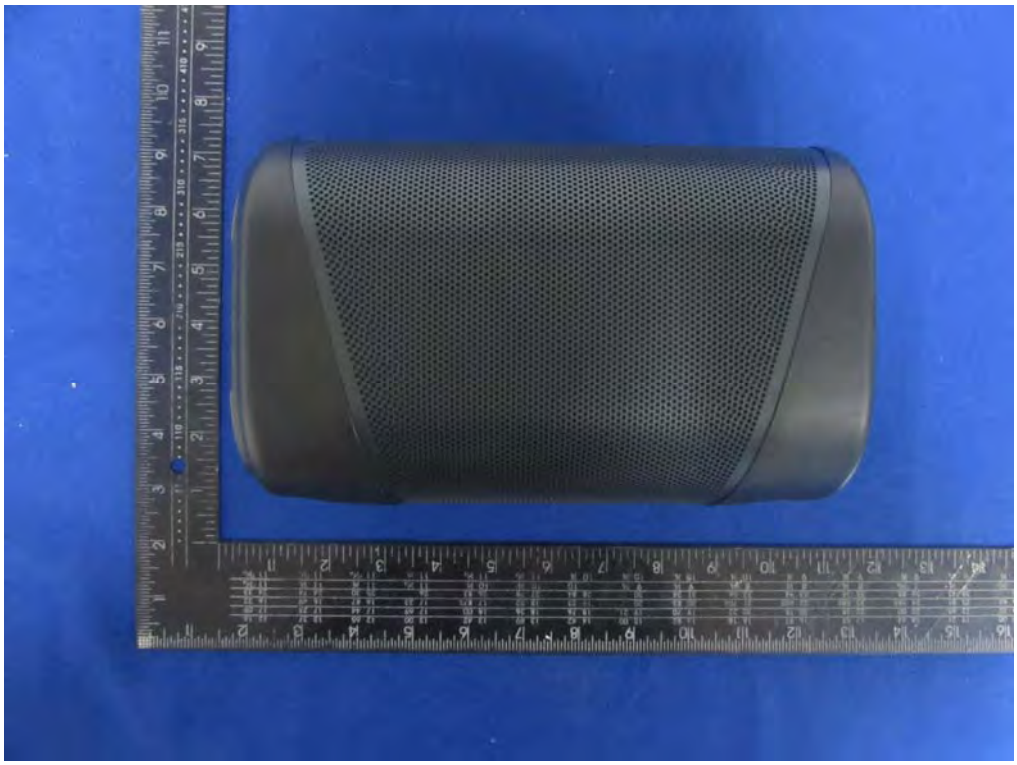
**External Photos**

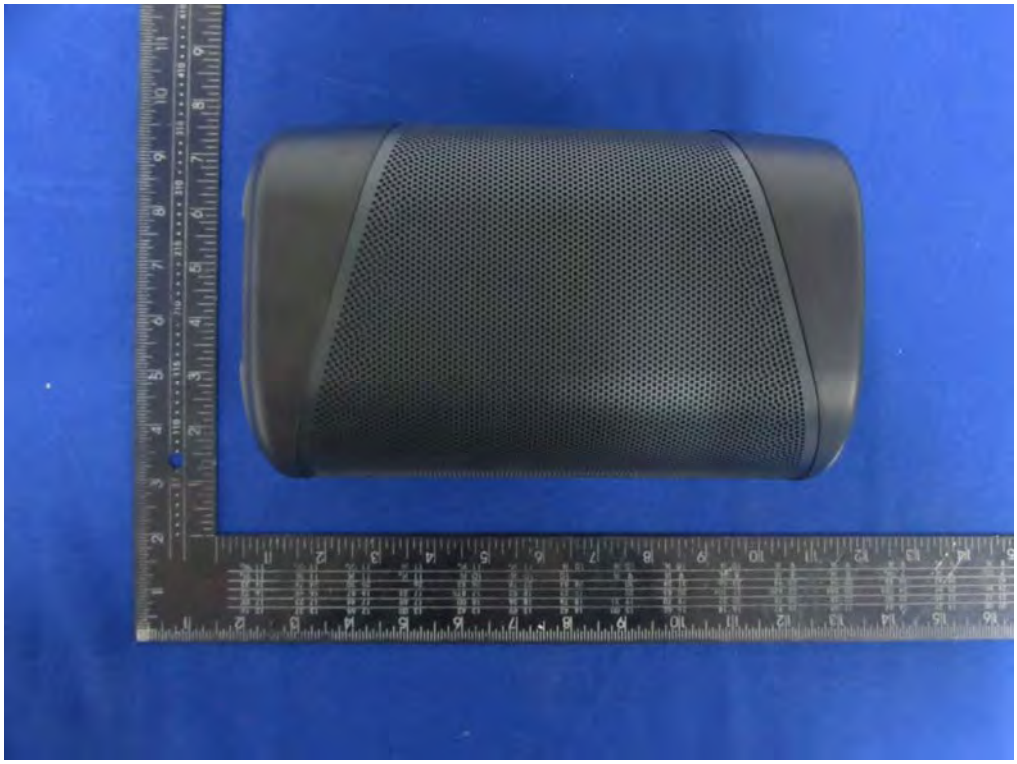
M/N: AD107A4BKA

**External Photos**

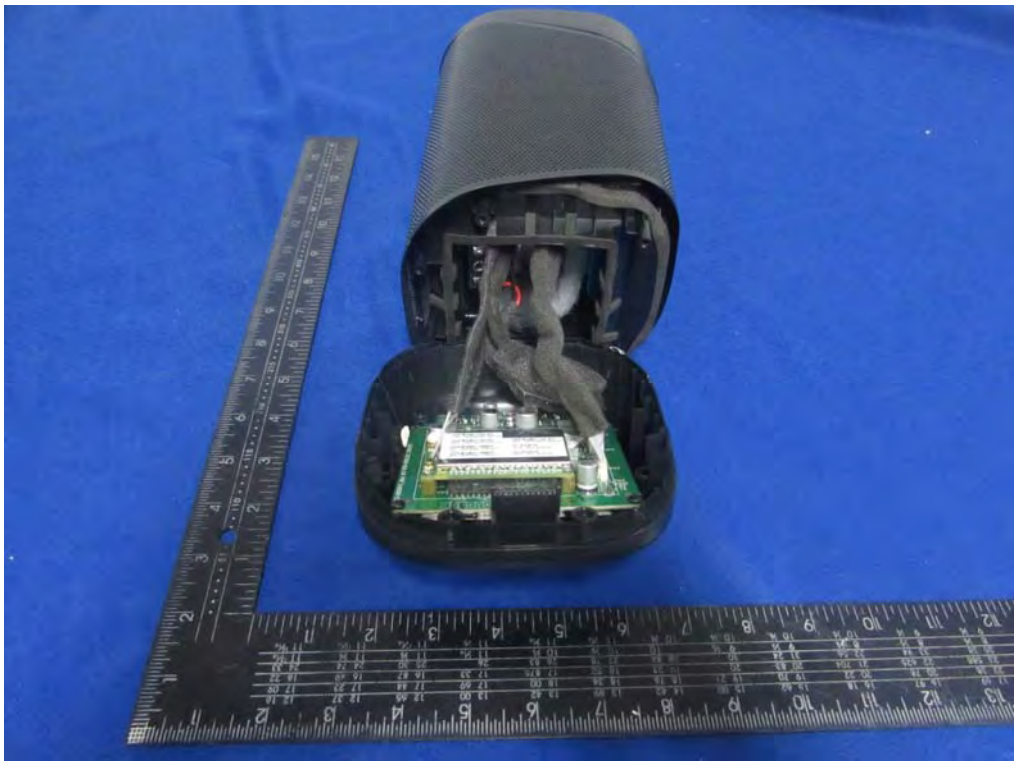
M/N: AD107A4BKA

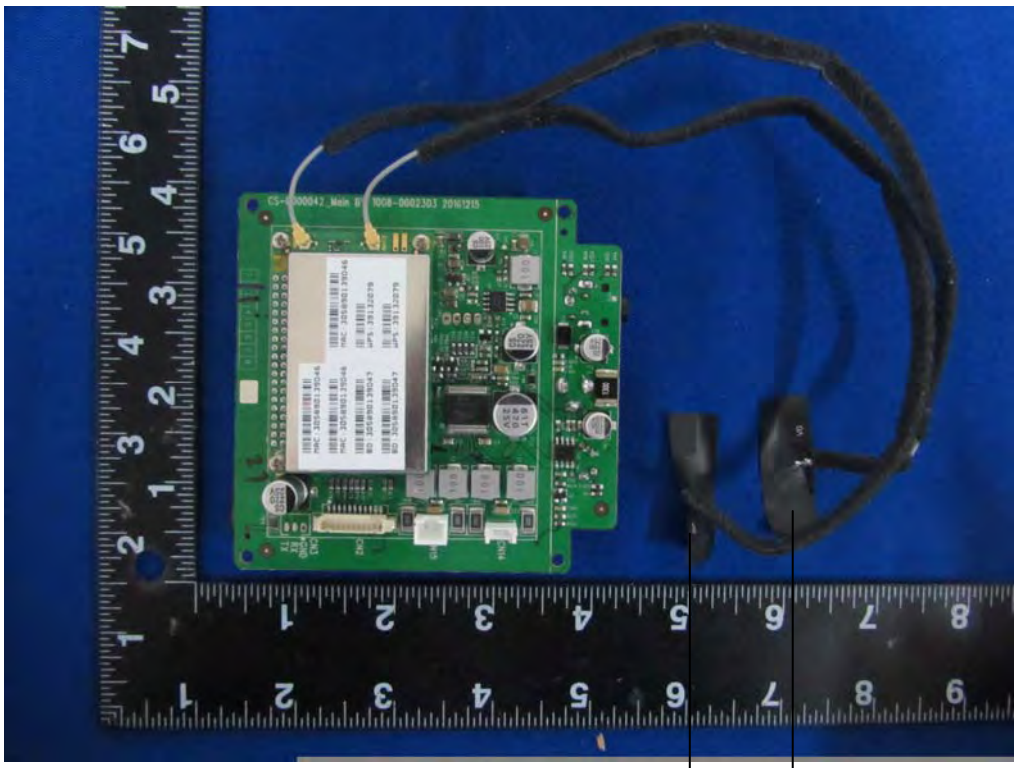




**Internal Photos**

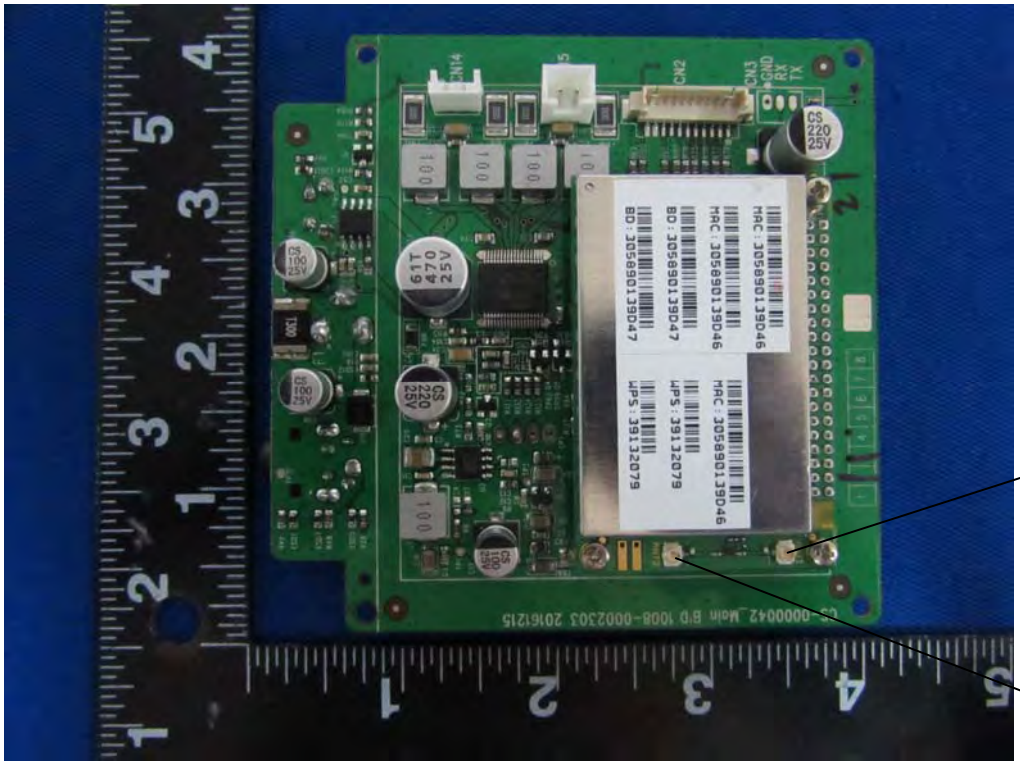
M/N: AD107A4BKA

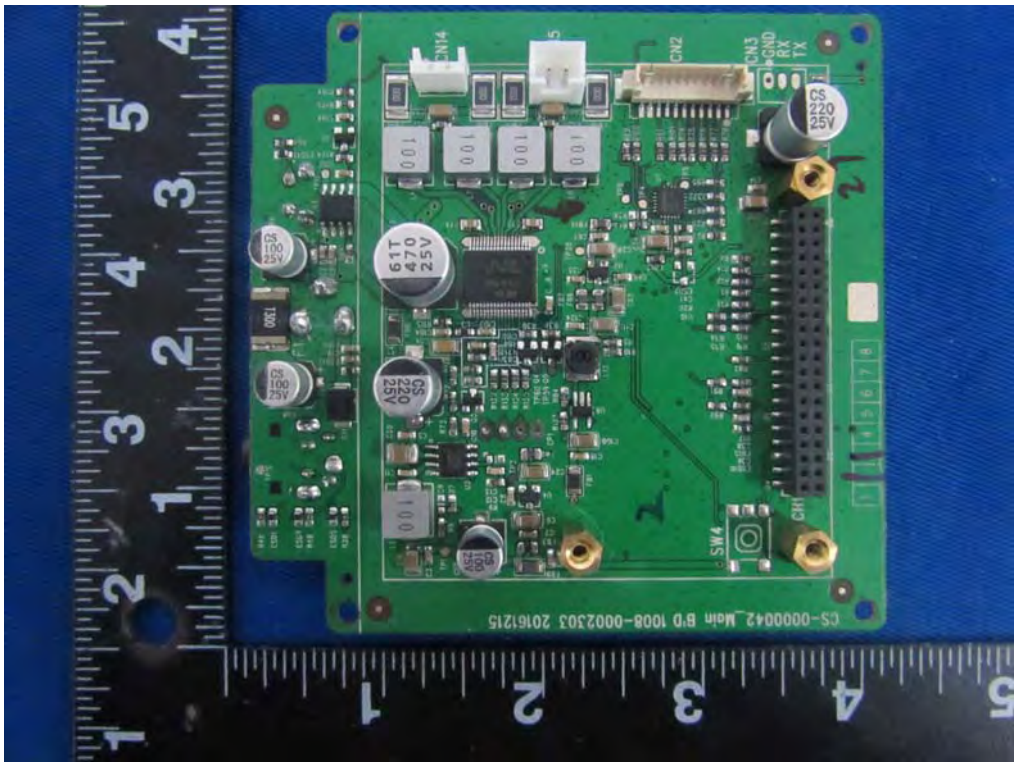




**Internal Photos**

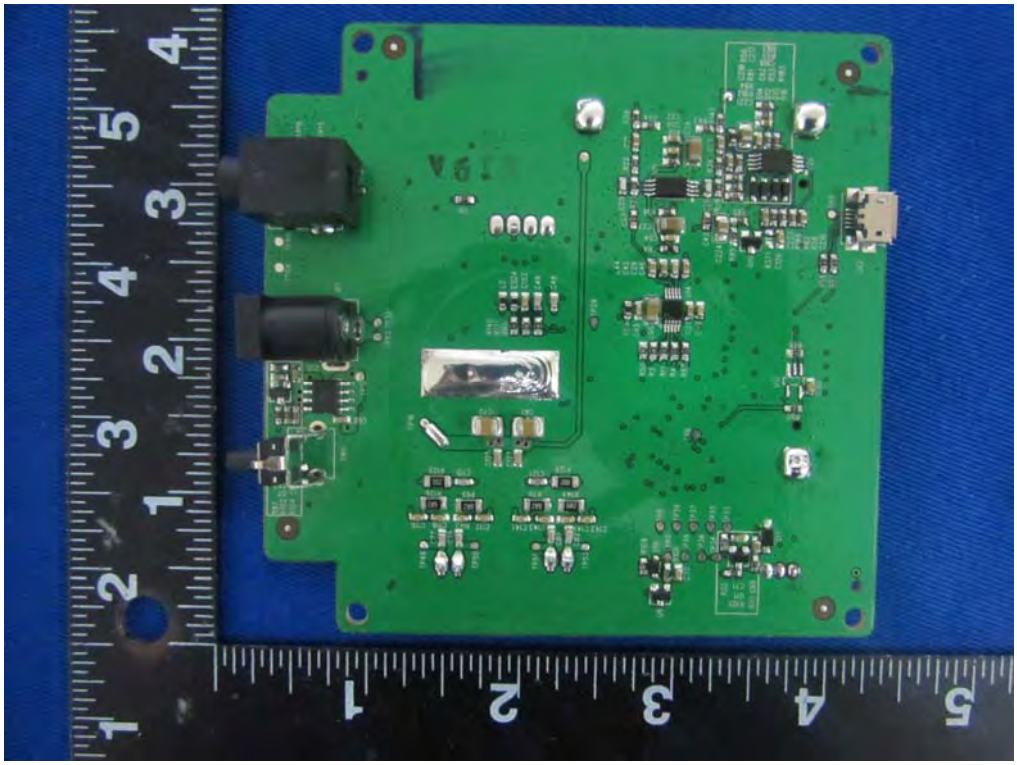
M/N: AD107A4BKA



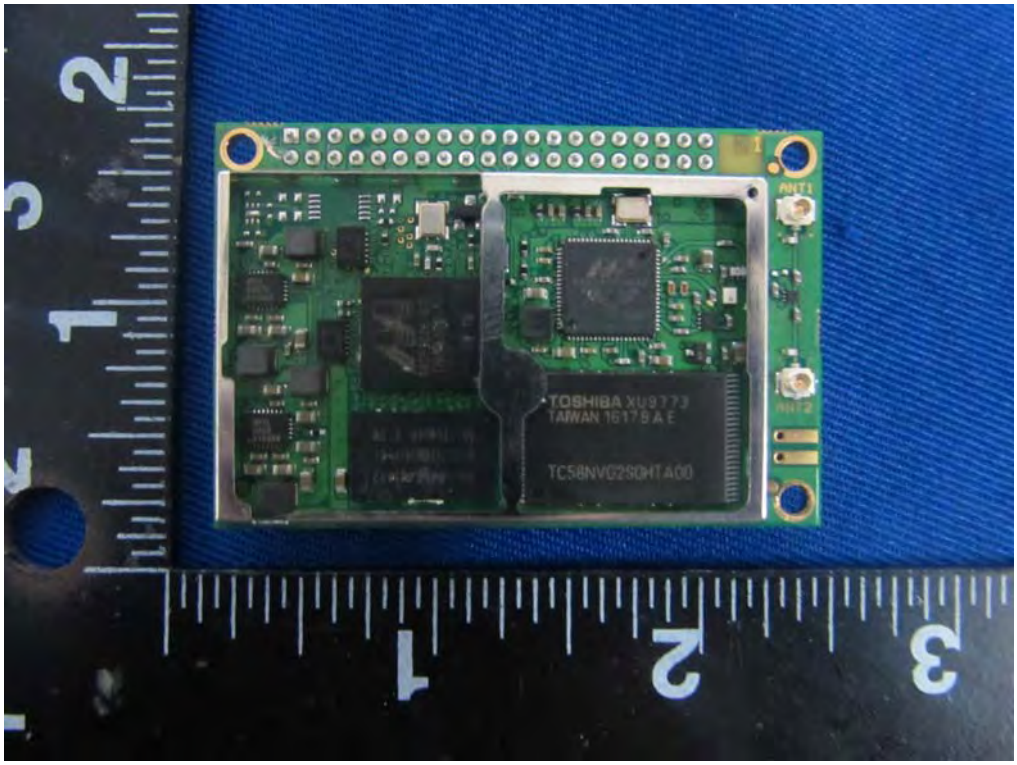
**Internal Photos**

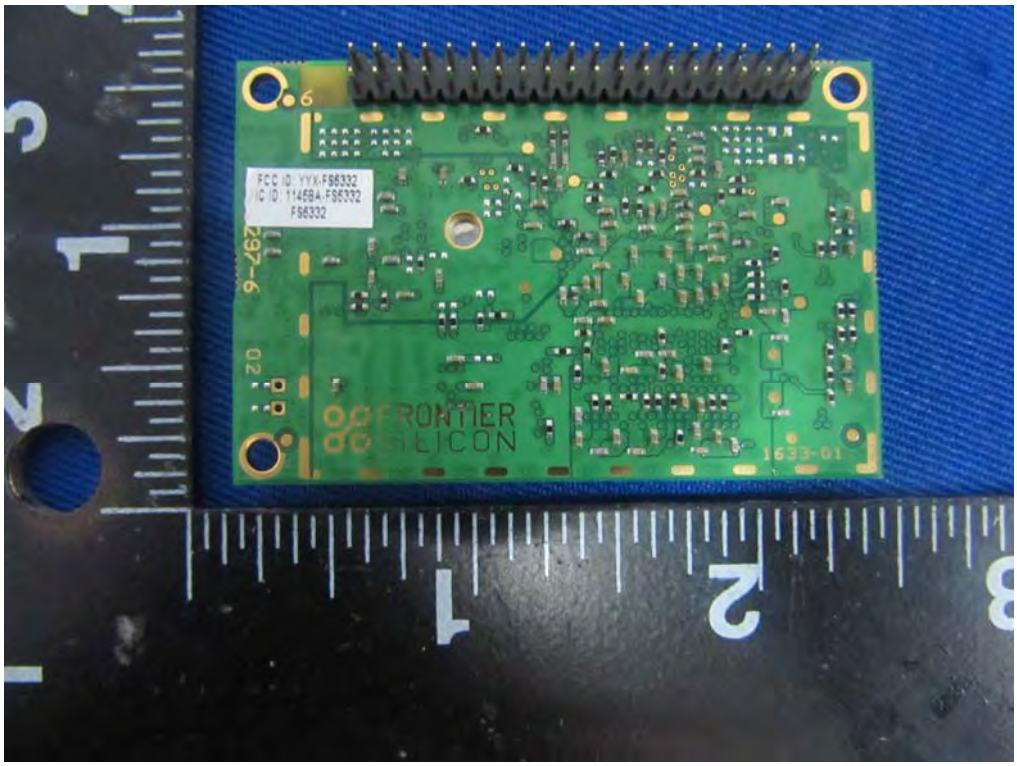
M/N: AD107A4BKA



**Internal Photos**

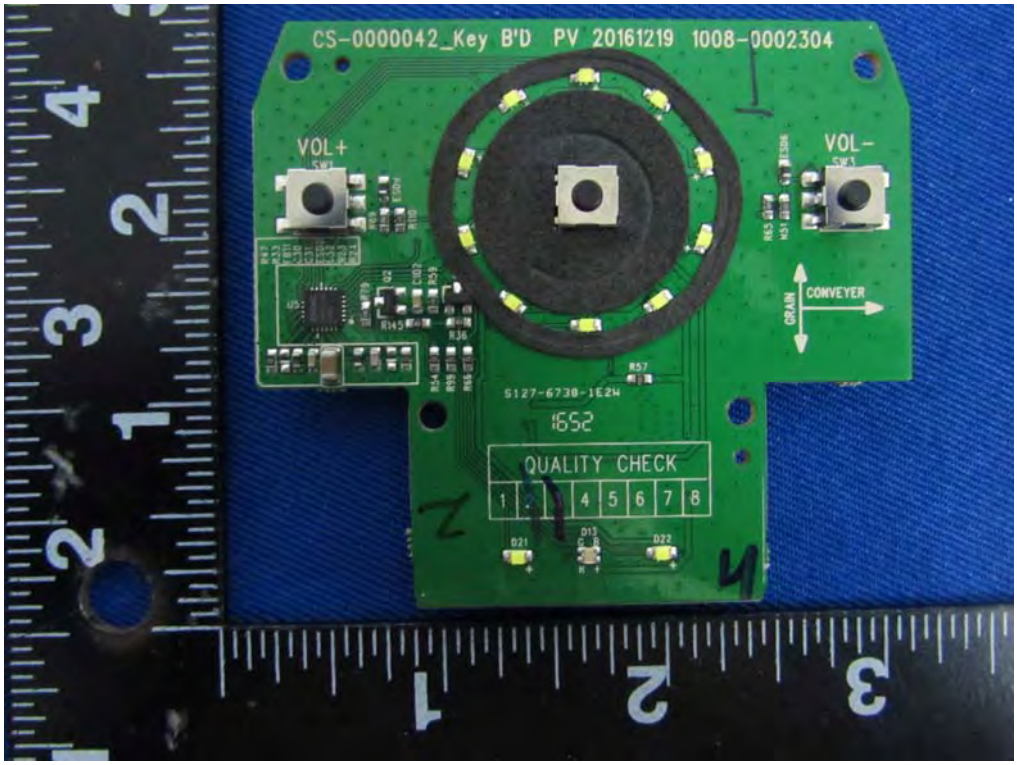
M/N: AD107A4BKA

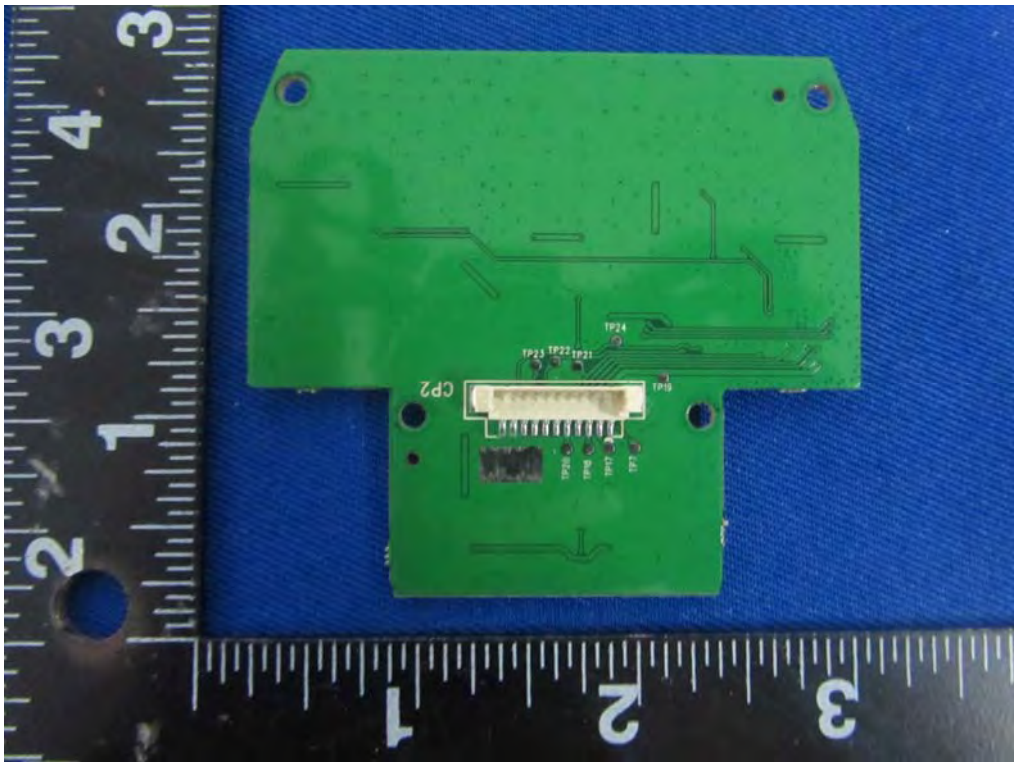


**Internal Photos**

M/N: AD107A4BKA



## Adapter Photos